LOGY DEPART

MARCH, 1949

# Industrial FINISHING

Published Monthly in the Interest of Product Cleaning and Painting by Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.

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MAR 26 1949
DETROIT

Specific FINISHES FOR
Specific PRODUCTS AND PURPOSES

plus

84 YEARS OF EXPERIENCE

provide

THE KEY
TO THE RIGHT FINISH

THE Lilly FINISHES

VARNISH COMPANY
Indianapolis, Indiana • Gardner, Mass.
THE LILLY COMPANY • High Point, N. C.

*Roxaprene*

**IT'S CORROSION-RESISTANT**
**IT DIPS WITHOUT DRIPS**
**IT'S HEAT-STABILIZED**

For York air conditioning equipment...

## WE TAILOR-MADE A CORROSION-RESISTANT COAT TO COVER 25 UNUSUAL SHAPES AND FIT A STANDARD PRODUCTION LINE

*A highly corrosion-resistant finish... that would cover 25 intricately shaped zinc and steel pieces simultaneously, in one pass through a 2,000-gallon dip tank... and be adaptable to the speed and flow of an established production line...* was being sought by the York Corporation, of York, Pa., famous for the manufacture of air conditioning and refrigeration equipment.

For this problem, we engineered a heat-stabilized Roxaprene chlorinated rubber base finish.

It possesses outstanding corrosion-resistance and covers the most complex part completely; has survived 4,000 hours in a humidity chamber and is still going strong!

It is applied by dipping, and drains to a uniform coating free of sags or drips.

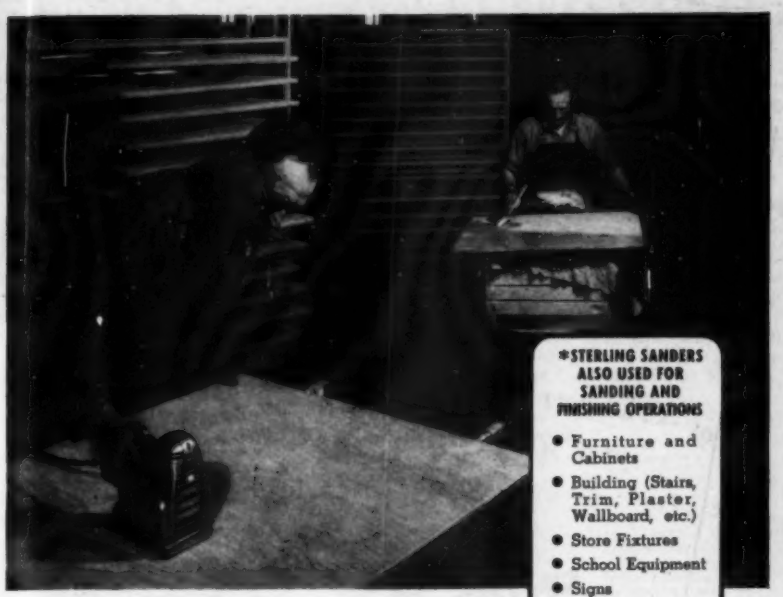
Moreover, because this finish remains absolutely stable in the tank... and also because it is heat-stabilized to withstand a 30-minute bake at 300° F... York engineers were able to integrate this operation into their overall finishing system and thereby achieve unusual flexibility, efficiency, and economy.

Write for brochure. Interchemical Corporation, Finishes Division, 57 State St., Newark 1, New Jersey.

Interchem *Finishes*

Roxaprene, Interchem, and IC are trade-marks of Interchemical Corporation.

# Table Tops* SANDED IN 1/3 THE TIME!



Sanding table tops after bleaching is a production operation when the Sterling Portable Electric Sander is used. This vibrationless Sander is 3 times faster than hand sanding and produces a smoother, more uniform surface. It's lightweight and easy to operate . . . sands convex or concave surfaces.

***STERLING SANDERS ALSO USED FOR SANDING AND FINISHING OPERATIONS**

- Furniture and Cabinets
- Building (Stairs, Trim, Plaster, Wallboard, etc.)
- Store Fixtures
- School Equipment
- Signs
- Displays
- Boats
- Auto Bodies
- Plastic
- Primer and Filler Coats on Wood and Metal

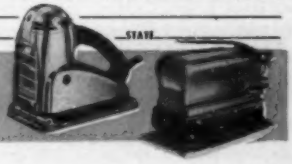
STERLING TOOL PRODUCTS CO., 1334-M MILWAUKEE AVE., CHICAGO 22, ILLINOIS

SEND DESCRIPTIVE FOLDER

NAME_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____



**STERLING PORTABLE ELECTRIC AND AIR-DRIVEN SANDERS**

**Here's one you will find hard to believe!**

*"You can make more by spending more"*

Ask our representative to acquaint you with

***Duo Coat***

**GRAND RAPIDS VARNISH CORPORATION**

GRAND RAPIDS, MICHIGAN

*Makers of the Famous Guardsman Finish*

Published
the 18th of each month by
**PRACTICAL PUBLICATIONS**
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Telephone Riley 6771

# Industrial FINISHING

W. H. ROHR, Editor  P. C. BARDIN, Associate Editor

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**MARCH, 1949**
**Vol. XXV, No. 5**

★

Distributed monthly to finishing room and paint shop foremen, production superintendents, chemists, purchasing agents and company executives of metal-working, woodworking and miscellaneous industrial plants where production cleaning and finishing are major operations in parts and products manufacture.

★

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Acceptance under Section 34.64, P. L. and R., authorized.

25 TWENTY-FIFTH YEAR OF PUBLICATION

**Optimistic Forecast.** Mr. Frank D. Newbury, consulting economist for Westinghouse Electric Corp., predicts a gross national product of $260 billion for 1949—up $35 billion over 1948—in a copyrighted article published in "Industrial Marketing", national business paper of industrial sales and advertising.

Mr. Newbury's forecast is based on the same technique he applied in correctly forecasting record business in 1947 and also in 1948—at a time that other economists in government and industry were warning of impending depression.

Mr. Newbury's own technique, reduced to its simplest terms, is based on the important relationship between total investment spending and total national production. But, while the initiating effect of investment spending on business activity is generally recognized, what is possibly new in the Newbury procedure is the grouping of government expenditures of an investment nature with the more familiar investment expenditures of private business. Total investment is the key to total product, according to this theory, the ratio being roughly that of $20 to $100.

"In 1947, $50 billion of investment corresponded with $231 billion of gross national product—the market value of total national production of all kinds of goods and services. In 1948, $56½ billion of investment increased gross national product at a slightly higher ratio up to $225 billion. Then, at about the same ratio, $59 billion of total investment would correspond with $260 billion of gross national product." This last figure is Mr. Newbury's prediction for 1949.

A shooting war, he adds, a boost in taxation affecting private investment, a change in Federal Reserve credit policies, a major change in the wholesale price level, or a serious break in farm prices (most unlikely under present government policies) would change the picture.

* * *

**Lower production** costs and a greater stimulus to sales in a buyers' market as a result of increasing management emphasis on improved methods of consumer and industrial packaging, packing and shipping is seen by the Planning Council of the Packaging Division of the American Management Association.

The 20 members of the AMA Council represent suppliers and users of packaging and packing machinery, materials, design and services which go into the making of packages and containers in which the goods of the nation are moved from producer to consumer.

* * *

**Wood Furniture Record In '48.** Reaching an all-time high of better than 1½-billion dollars at manufacturers prices in 1948 is quite a record for furniture built of wood. This is an 8% increase over 1947, according to Seidman & Seidman, certified public accountants. The largest past year output was in 1941 with a total of 660 million dollars. *(To page 6)*

# ONLY

**DETROIT HANDY "TAC" RAGS ARE**

## NON-INFLAMMABLE

**This NEW exclusive feature has been developed after years of research. For 15 years Detroit Tac Rags have been the standard of quality. Now—we give you this new exclusive safety feature at no extra cost.**

**DETROIT HANDY TAC RAGS—In removing all particles of lint, dust, or sand, preparatory to lacquering or enameling—insure a smooth, perfect, mirror-like finish—with this additional assurance of freedom from fire hazard.**

**DETRO MFG. & SALES COMPANY, INC.**

**3429 Wesley Street** **Culver City, Calif.**

---

***"From the Start . . . Consider the Finish"***

**USE FASTAIN**

**The answer to your STAIN problems:**

Fast to light; to apply; to dry.
It's clear, clean, permanent!

**Use FULL-FILL FILLERS**

Eliminate puffing, shrinkage and haze. Easy wiping, fast coating. Light-Last transparent colors.

**V. J. DOLAN & COMPANY, Inc.**

***Manufacturers of "Unquestionable Quality"***

**Lacquers, Sealers, Thinners, Bleaches, Etc.**

**1830 N. Laramie Ave.** **Chicago 39, Ill.**

**Talk about terrific! . . . You're IT—Every one of you swell friends . . . who tried our famous Michigan SHARP-CUTTING Abrasives.**

**Because you tried them . . . stuck by them . . . and then told your friends about them!**

**What happened? You boomed our sales so high we had to get another new plant—just for fabricating Michigan SHARP-CUTTING Abrasives!**

**Say, if you aren't one of our growing crowd of friends, let us show YOU the LONGER-LASTING Michigan SHARP-CUTTING Abrasives—**

**WRITE FOR FREE SAMPLE**

**today—Samples that let you SEE and FEEL the difference.**

**IN EVERY TYPE YOU WANT!**

(Supplied in Belts, Discs, Rolls and Sheets—paper or cloth backed—in Silicon Carbide, Aluminum Oxide, Garnet—in full range of standard grit sizes.)

**MICHIGAN ABRASIVE CO.**
**2360 W. Jefferson Ave. Detroit 16, Michigan**

**Michigan**
**SHARP CUTTING**
**ABRASIVES**
'The Humidity Controlled Abrasive'

Frank E. Seidman who prepared the report called attention to the fact that the boom of '48 is leveling off somewhat. Scarcities for the most part are over and the return to a buyers market means increased competition.

* * *

**Television Influence.** Video is doing more than affecting American family life; it is changing furniture styles and designs.

A recent survey of about 800 families, conducted by Farleigh Dickinson Junior College, shows that the average television enthusiast spends 3½ hours a day before his screen, and that reading and conversation are seriously affected.

At the January Chicago furniture show new designs in furniture were displayed especially adapted to television. Chairs that are low slung and comfortable, yet easy to move appeared, along with an upholstered chair that revolves on a special base which eliminates getting up and moving the chair to see a basket ball game or the latest wrestling match. The back and arms of the chair are slanted just a little to the back for extra comfort.

Americans love comfort and convenience, and manufacturers are quick to supply the means.

* * *

**Retail Selling** appears to lack effectiveness, and something should be done about it. According to Maxwell I. Schultz, executive vice president of Willmark Service Systems, Inc., whose company made a comprehensive survey of retail stores in general all over the nation, retail sales people are only 71.4% efficient.

The survey shows that in the selling factors of "initiative and persuasive effort", classified as "trading up" and "suggestive selling," sales

*(Continued on page 89)*

# Achievement

## A Very Special Parts Washer for a Very Special purpose

## The Problem

1. A machine is required which can be used for two classifications on reciprocating bodies.
   (A) Cleaning the inside of bodies in such a manner as to be satisfactory for the application of Rustproofing services.
   (B) Removing protective coatings from the inside of bodies which are to be reclaimed for the same purpose as in (A).
2. Machine will be capable of processing _____ steel bodies per hour on bodies up to _____ area of _____ cubic feet per hour on bodies up to _____ cubic feet. Machine will otherwise handle _____
3. Machine consists of twelve basic operating units, including development, heating, control, drainage, conveyor frame, cabinet and motor mechanism. It runs empty for the first hour of operation.
4. Necessary safety devices will be supplied to prevent damage or injury to the work, the machine and for the operators, and all such devices must meet the requirements of _____ and must be approved by _____ as to be readily available from the factory operating standards.

Considering the settlement fact that the unit was to physically meet many highly particular needs and duties with normal maintenance and would not introduce complicating conditions in the process of cleaning, the following design was developed:

## The Solution

A dodecagonally shaped enclosure with drawer type pans and tanks with all equipment mounted on the outside for safety and ready maintenance.

A fully protected, Geneva type, hydraulically operated, spider shaped turn table with toggle type holding fixtures.

Cam interlocked, no load, no spray devices operated from the holding fixtures. Entire interior of hood and exhaust systems smooth and easy to clean—properly coated with an alkali-acid resistant coating and covered with Latex rubber.

Entire unit not alone constructed of monel metal, hard rubber and lead and complete with hard rubber, stainless, and lead equipment but also protected with proper rubber and protective coatings.

To meet the customers' rigid requirements; to comply with all underwriters standards and all safety provisions; to tell the whole story would fill this magazine . . . suffice it to say that here is a unit worthy of bearing a Peters-Dalton nameplate.

*For Finer Finishing Equipment — In A[illegible] Industry — It's*

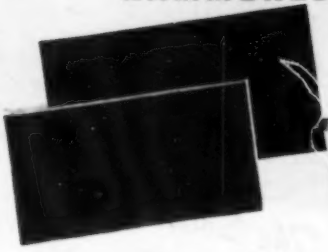
# PETERS-DALTON Inc.

17916 RYAN ROAD • DETROIT 12, MICHIGAN

CYCLO-WHIRL

# DIMENSO

HAMMERED FINISHES IN



TWO COLORS

ONE OPERATION

1/3 LESS COST

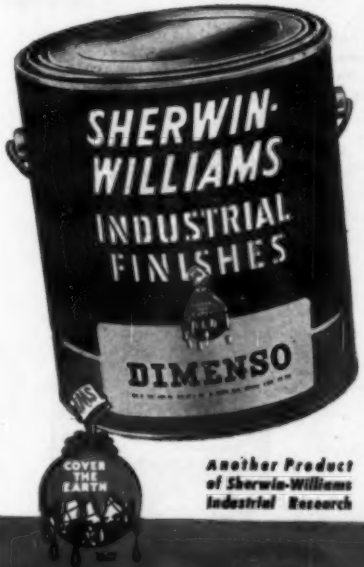
SHERWIN-WILLIAMS

# FOR THAT *EXTRA* SALES APPEAL!

*Now* you can select the finish for your products from an almost unlimited choice of striking hammered effects—*applied in a single operation!* You can do it with Dimenso—*and only with Dimenso*... product of Sherwin-Williams Industrial Research.

Your products finished in Dimenso will have a colorful, striking eye appeal that will give you a real selling edge on competition ... *at surprisingly low cost.* Select the color combination you want ... register it with Sherwin-Williams ... and no competitor can use the same combination. It's *yours exclusively* in your field—for instant, unfailing identification of your product!

Mail the coupon for the full facts on Dimenso—one of the outstanding developments in the comprehensive line of Sherwin-Williams Industrial Finishes for every purpose. The Sherwin-Williams Co., Industrial Division, Cleveland 1, Ohio. (Export Division, Newark, N. J.)




*Another Product of Sherwin-Williams Industrial Research*

THE SHERWIN-WILLIAMS CO.
Cleveland 1, Ohio

Gentlemen:

Please send me full details about Dimenso, including free booklet with actual finish samples.

Name_____

Position_____

Company_____

Address_____

City_____

Zone No._____ State_____

INDUSTRIAL FINISHES

# BINKS agitators

Getting solids and pigment, impacted in the bottom of a drum or barrel, back into suspension (and keeping it there) is an agitator's job . . . manpower is too slow . . . too expensive.

Agitators are indispensable also on pressure material tanks to assure proper mixing of paints, lacquers, etc. They are imperative when spraying porcelain enamels, aluminum, bronze and other fast-settling materials.

Binks air-motor agitators are low in first cost and their operation is exceptionally economical. Their upkeep is negligible. They are light, portable and completely explosion-proof.

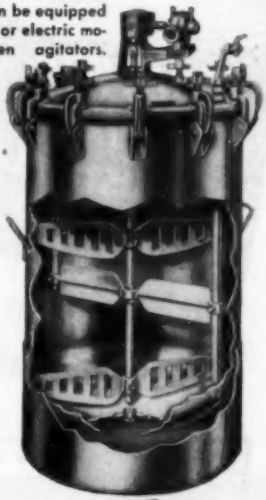
Binks agitators connect to any air line. Their mixing speed is adjustable at the motor, from 15 to 90 r.p.m. Only 4 to 8 cubic feet of air per minute at 50 pounds pressure is required to operate them. To prevent splashing and waste, special Binks designed aluminum propellers produce the maximum mixing effect with minimum turbulence. Another exclusive feature of these Binks agitators is the design of the motor exhaust which prevents condensates from the air line dripping into the material.

You have five different types of Binks agitators from which to choose . . . there is a model for every purpose . . . laboratory, mixing room . . . spray booth.

"Our business is making equipment that will enable your business to produce a better finished product at the least possible cost."

J. J. Roche
President

Pressure material tanks can be equipped with air or electric motor-driven agitators.



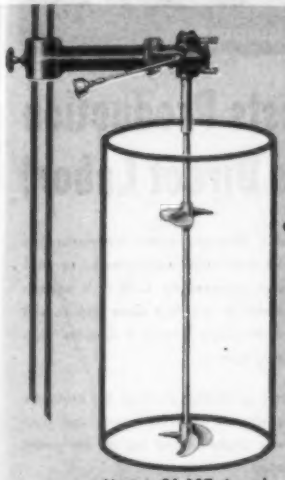
**Binks** MANUFACTURING COMPANY

3116-40 Carroll Ave., Chicago 12, Ill.

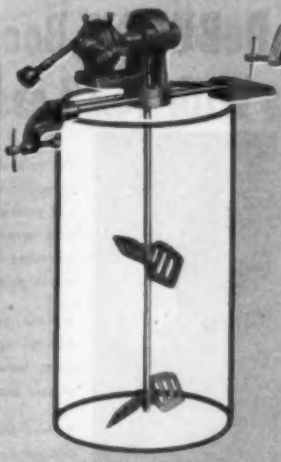
NEW YORK DETROIT LOS ANGELES ATLANTA BOSTON CLEVELAND DALLAS MILWAUKEE NASHVILLE PHILADELPHIA PITTSBURGH ST. LOUIS SAN FRANCISCO SEATTLE WINDSOR, ONTARIO, CANADA

*Send now* for free copy of our new Catalog-Data Book. Request your copy on your company letterhead.

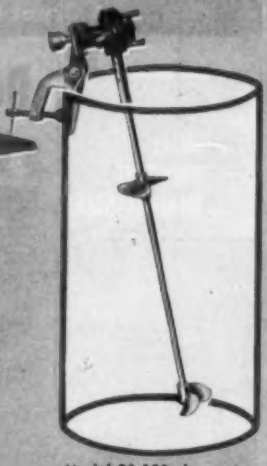
# give you } faster mixing / better finishes



Model 31-107 is adjustable for height. Stainless steel shafts 12, 16, 20, 24, 28 or 32 inches long.



Model 31-113 clamps across open type containers. Has 30 inch stainless steel shaft.



Model 31-101 clamps to open top containers. Stainless steel shafts 12 to 32 inches long.

Model 31-114 for barrels or drums fitted with agitators. Supplied with four adapters.

Model 310-100. Laboratory style, for mixing small quantities. Has stainless steel shaft.

Model 31-116 air motor for use on material tanks equipped with agitators.

Model 31-118 explosion proof electric motor for use on material tanks equipped with agitators.

# Look to KOCH

A Great Name in Finishing Equipment

NOTE:
SMALL
FURNITURE
MANUFACTURERS

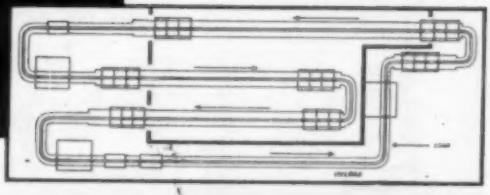
## DeBURGH* Boosts Production With 46% Less Direct Labor!

Workmen are always in the natural position to do their best work — at high production rates.

The case of a Michigan furniture manufacturer is typical, whose direct labor was decreased by 46% and production increased by 20% — in addition to a commitment of less floor space and general improvement of quality through a complete engineered finishing system.

Whether your production is large or small, the DeBurgh System will save you money and floor space, increase production and improve the quality of your product.

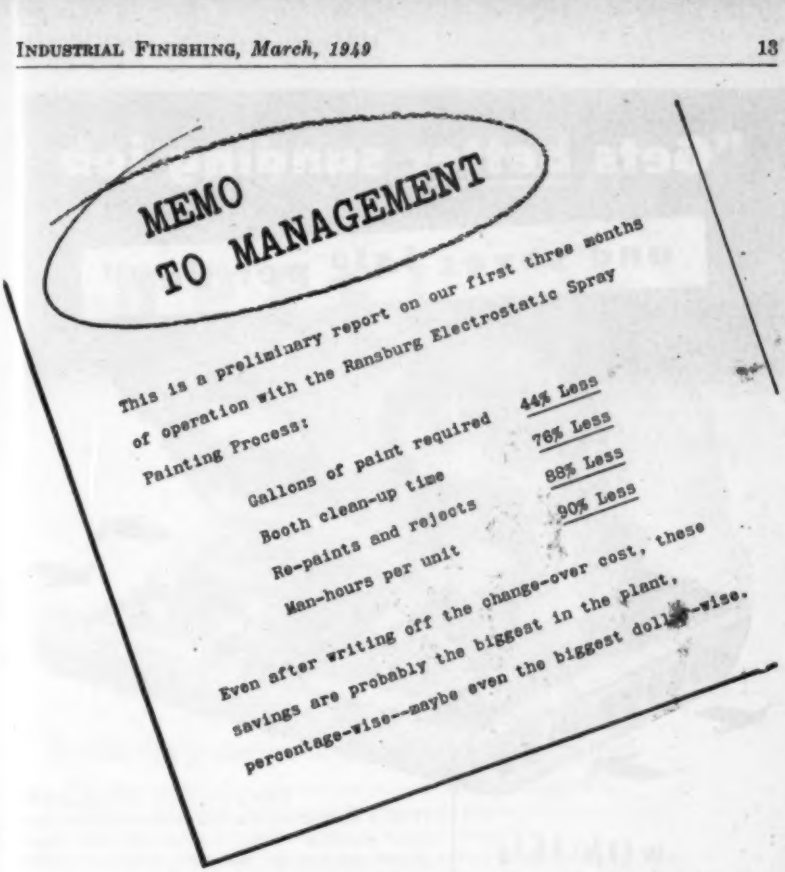
If these benefits sound good to you, you are a DeBurgh prospect. Let us analyze your requirements without obligation. Write for Bulletin 3-A.



*PATENTED CONVEYORIZED FINISHING SYSTEM

GEORGE KOCH SONS, INC.

EVANSVILLE, INDIANA


MEMO
TO MANAGEMENT
This is a preliminary report on our first three months of operation with the Ransburg Electrostatic Spray Painting Process:
Gallons of paint required 44% Less
Booth clean-up time 76% Less
Re-paints and rejects 88% Less
Man-hours per unit 90% Less
Even after writing off the change-over cost, these savings are probably the biggest in the plant, percentage-wise--maybe even the biggest dollar-wise.

● Not one plant, but plants in many varied industries report four-way savings like these with Electro-Spray . . . the process that pulls the paint on. Why not write today for engineering data on an installation to meet your particular requirements—or ask to see our full-color film? RANSBURG ELECTRO-COATING CORPORATION, Indianapolis 7, Indiana.

RANSBURG

# "Gets better sanding job and saves $4.50 per day"

*with this*
***Sundstrand***
**PORTABLE**
**OPPOSED-PAD**
***Sander***

That's a typical savings report from a user about his Sundstrand Sander over hand sanding. This manufacturer uses Sundstrand Sanders for water sanding automobile bodies after the prime coat has been applied. Twelve sanders on the production line are in use 8 hours per day, 5 days per week. The savings of the 12 sanders over hand sanding is $54.00 per day — $4.50 per machine.

Investigate the possibility of savings like this in your plant. If you have sanding operations in wood, metal or plastics, write for additional information. Ask for bulletin IF-39.

**SUNDSTRAND MACHINE TOOL CO.**
PNEUMATIC MACHINE DIVISION
ROCKFORD, ILLINOIS, U.S.A.

**FULL PROTECTION**
**until you want it PEELED**
**. . . THAT'S**

# COPEEL

**. . . the modern plastic coating that gives flexible-film protection to the surface of your product**

Why run the risk of expensive rejects of parts damaged during storage . . . transit . . even assembly? Through all these stages Copeel *protects* your products against marring – scratching – rust and corrosion!

Copeel protects the highly polished metal surfaces of precision parts . . . can also be used over properly cured synthetic baking enamels. Applied by dip or spray method, Copeel quickly hardens to a tough flexible film that peels off easily – like the skin of a banana – when required.

Write for Technical Data Bulletin #T504 for full details regarding the most suitable type of Copeel to protect your products. Better yet – let an M&W Sales Engineer discuss with you the best and most economical way to use Copeel.

PIONEERS IN PROTECTION
M&W Co. 1876

*. . . where industry goes with finishing problems*

**MAAS & WALDSTEIN COMPANY** NEWARK 4, NEW JERSEY

Boston 15, Mass. • Chicago 12, Ill. • Los Angeles 54, Calif.
Pacific Coast Division: SMITH-DAVIS CO., 10751 Venice Boulevard, Los Angeles 34
MANUFACTURERS OF INDUSTRIAL FINISHES

**JOHNSON FURNITURE COMPANY**

GRAND RAPIDS, MICH.

February 21, 1949

DeBurgh Conveyors
Redondo Beach, California

Dear Mr. DeBurgh:

We thought you would like to know how highly pleased we are with our DeBurgh conveyor system recently installed in our Finishing Department.

As you know, we spent many months investigating various conveyor systems and made numerous trips to other plants throughout our section of the country to inspect existing installations. Our investigations convinced us of the superiority of your system.

A few of the many reasons why we are so convinced are the following:

1. The DeBurgh system has no overhead track to allow dirt and grease to fall on the furniture.

2. Because the pallets ride on the conveyor instead of being suspended, the furniture is accessible from all sides.

3. All lifting and pushing of the furniture is eliminated, thus permitting each worker to spend full time at his assigned task.

4. Pallets may be moved ahead when required at various points in the system.

5. The close pack feature permits a minimum of drying space.

6. The oven built in conjunction with your system provides a scientific drying process resulting in a uniformity of finish never before attained.

In addition to these matters, you will be glad to know that our employees (all of whom had no previous conveyor experience) have taken to the system exceedingly well, which is, of course, most gratifying.

We shall be most happy to have you pay us a call when you are again in Grand Rapids so that you can see for yourself why we are so pleased with the DeBurgh system.

Yours very truly,

JOHNSON FURNITURE COMPANY

Earl Johnson

Earl Johnson

*Investigate!* **DeBurgh Conveyors**
Patented and Patents Pending
*For Assembly, Finishing and Upholstering*
**Box 202 — Redondo Beach, Calif.**

*Sans Pareil*

**Fifty million Frenchmen would probably say, "Sans Pareil" (matchless) — and we wouldn't be a bit surprised if we heard an oo-la-la from you!**

**Besides pictures of curvaceous beauties, however, we also offer another source of interesting discussion. Finishes of distinction that have gained wide acceptance from manufacturers of all types and sizes of products.**

**The artists in our Creative Studio render an invaluable service by producing these finishes exactly to your specifications . . . or — if your prefer — they will take the initiative and develop a coating which is in keeping with the design and use of your merchandise.**

**You will find it advantageous to call on our Creative Studio for recommendations. No obligation for an analysis of your problem.**

*No Tampering with Quality*

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS

*Manufacturers of Protective and Decorative Coatings*

**Greater Beauty and Durability of**

## Greater Beauty and Durability of

# PITTSBURGH LAVAX ENAMELS

### *add to Sales Appeal of Millions of Fine Home Appliances*

IT is not surprising that many leading manufacturers of refrigerators, washing machines, hot-water heaters, kitchen cabinets and other household appliances use famous Pittsburgh Industrial Finishes.

By working closely with the engineering and technical staffs of these organizations, Pittsburgh has produced tailor-made Industrial Whites of outstanding quality and performance to meet their needs and performance standards.

**These coatings have** the smoothness and opacity desired for the various kinds of appliances. They adhere well and attain the desired hardness under specified baking schedules. They resist grease and humidity. They hold their initial gloss and color through many years of service.

**As a result,** these Pittsburgh Finishes not only add to the eye appeal of the appliances on the salesroom floor but also keep them looking better longer in the homes of their purchasers.

Such cooperation with the appliance manufacturers is just another example of the valuable assistance Pittsburgh has been giving to users of industrial finishes in many fields. This understanding of finishing problems, based on practical experience, can be helpful to you. Call on us for facts and figures.

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Industrial Paint Division, Pittsburgh, Pa.

Factories: Milwaukee, Wis.; Newark, N. J.; Springdale, Pa.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Dixler Color Division, Detroit, Mich. The Thresher Paint & Varnish Co., Dayton, Ohio. Forbes Finishes Division, Cleveland, Ohio. M. B. Suydam Division, Pittsburgh, Pa.

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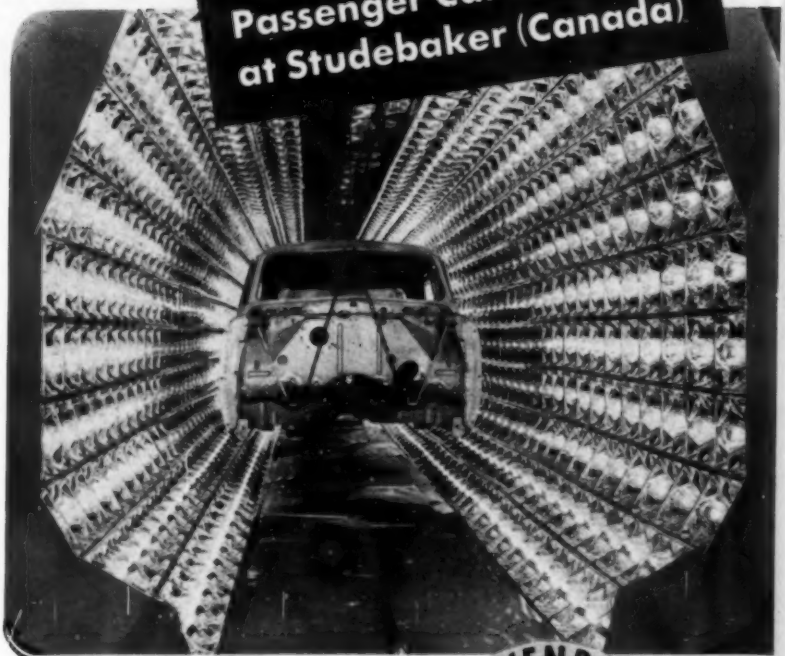

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for a free brochure describing the Infra-red process and Evenray advantages. Tell us your particular problem for our analysis and recommendation. No obligation.

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# FOR INFRA-RED

## BAKING AND DRYING

All finishing operations requiring heat, including top enamel coats, are being baked with Fostoria EVENRAY Ovens at the new Studebaker-Hamilton factory in Canada.

**OVEN No. 1 (illustrated)**
**For Dry-off after Bonderize**

**OVEN No. 2**
**For Sheet Metal Prime**

**OVEN No. 3**
**For Sheet Metal Enamel**

**OVEN No. 4**
**For Body Primer-Surfacer**

**OVEN No. 5**
**For Body Dry-off after Wet Sand**

**OVEN No. 6**
**For Body Finish Enamel**

Studebaker factories in the U. S. and other countries, and many other automotive plants, are also using Fostoria EVENRAY Systems.

Infra-red provides many advantages, reaching a high degree of efficiency unattainable by other industrial heating methods. But it takes proper engineering of equipment to fully utilize the inherent advantages of the Infra-red process. Fostoria Evenray, by actual test, out-performs any other Infra-red system on the market today. Back of every Fostoria System are many years of intensive research . . . the foremost knowledge of Infra-red applications . . . the unequalled skill and experience gained from more than 6,000 highly successful Evenray installations. Infra-red processing offers outstanding production benefits for your use — with the sound engineering of a Fostoria Evenray system. Request a Fostoria recommendation, today.

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*Highlights on*

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***Gloss White Synthetic Enamel***
***Quick Baking at Low Heat***

A beautiful white in one coat on smooth metal. A finish which resists the action of alkalies, grease, cosmetics, hair tonic, liquor, fruit juices, gasoline, mineral spirits and machine oil.

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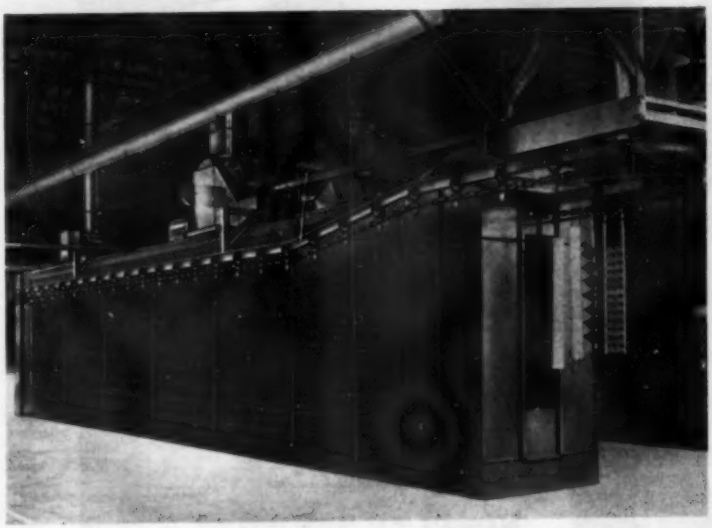

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TODAY, more than ever before, there is need for expert engineered finishing systems and carefully manufactured finishing equipment to cut costs and improve quality. It will pay you, therefore, to consult us on your finishing requirements. SPRA-CON Finishing Systems operate more efficiently and provide higher quality production.

*the* SPRA-CON COMPANY

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*Engineers and manufacturers of conveyors, ovens, washers, and equipment for complete paint finishing systems . . . .*

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*Industrial Finishes*
*that make the most of available raw materials to give you greatest durability, together with attractive appearance and economy.*

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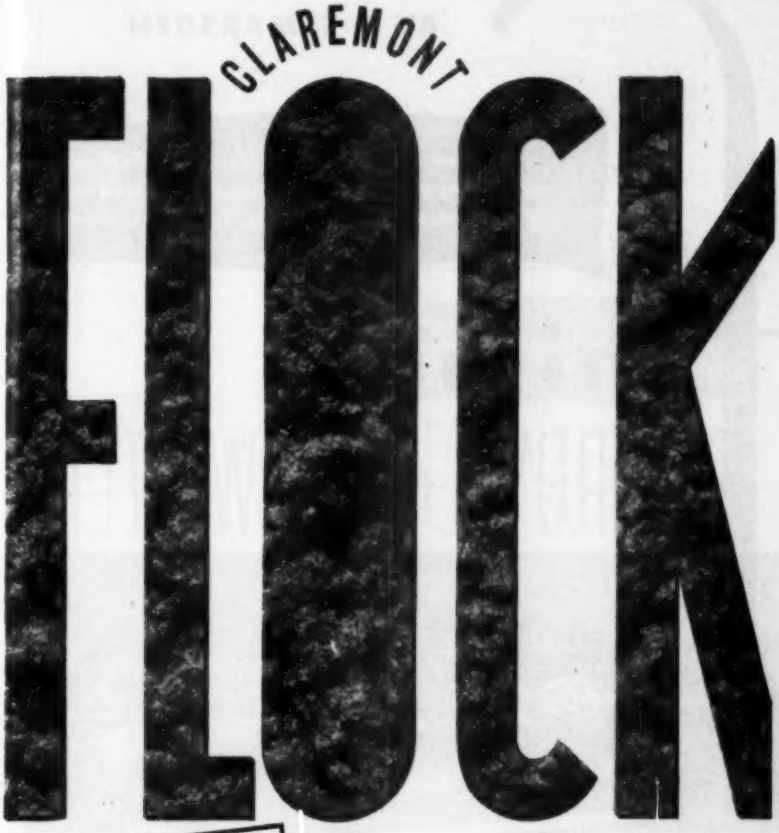


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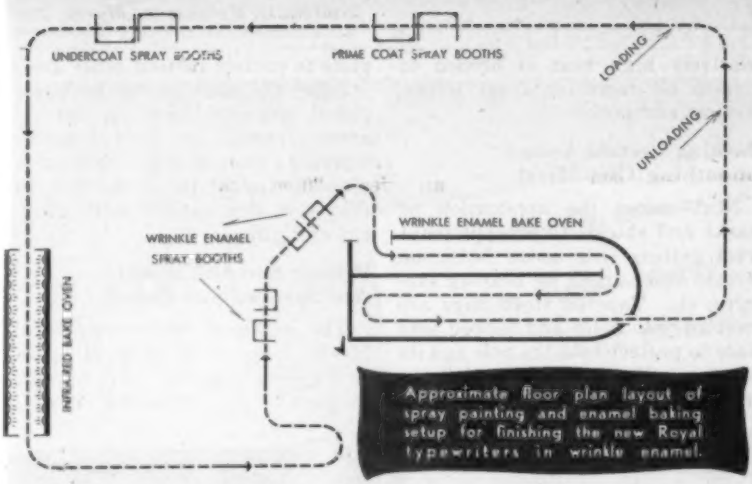
For sound-proofing and insulation requirements or as a protective finish on industrial products, Claremont Flock (cotton, rayon, wool) is quickly and economically applied to any shape or surface. 18 assorted shades and brilliant colors. Samples available upon request. Inquiries invited!

**CLAREMONT WASTE MFG. CO.**
CLAREMONT, NEW HAMPSHIRE

BY L. E. MARSDEN

Foreman of Royal Typewriter Co.'s finishing operations explains surface preparation, masking, glazing, spraying, and baking, for wrinkle finish.

# Finishing ROYAL TYPEWRITERS




Approximate floor plan layout of spray painting and enamel baking setup for finishing the new Royal typewriters in wrinkle enamel.

# IN WRINKLE ENAMEL

TYPEWRITERS, like numerous other office appliances, are given constant daily use and wear. This calls for a durable finish with good adhesion; also a finish that will resist bumps and abrasion, and retain its original color, sheen and attractiveness for a long time.

### Preparing Metal Surfaces For Finish Coats

One of the first steps in this direction is the preparation of the metal surfaces to receive the all important foundation coats. Two kinds and three types of metal must be considered. Frames are made of die-cast aluminum. Some of the small parts are cut from sheet aluminum; other small parts, which receive intensive wear, are steel.

All parts are sent through a metal surface preparation setup where a hot emulsion cleaner is sprayed over them. This is followed by a cold water rinse. In the next stage, a phosphate solution is sprayed at 180° F., followed by a cold water rinse. In the last stage, a mild chromic acid is applied. Very small light-weight parts are placed in covered wire mesh baskets, while undergoing this treatment, so that the force of the various sprays and rinses will not blow them away.

The elapsed time, so far, is 14 minutes. After chromic acid treatment the parts go through an electric oven (a part of the washing machine) where they are dried for seven minutes at 475° F. This

relatively high heat is needed to remove all moisture from joints, crevices and pockets.

### Masking Certain Areas; Smoothing Cast Metal

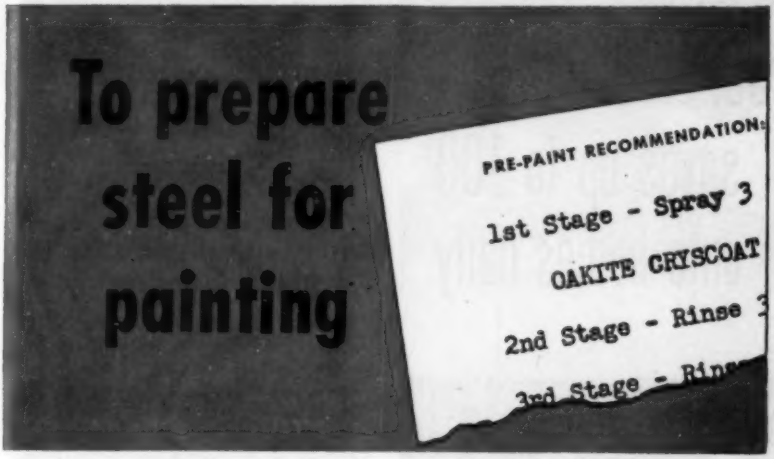
Next comes the application of masks and shields to prevent paint from getting into screw holes, on certain other areas, on bearing surfaces, etc. Tapered steel plugs are inserted into holes and tapped into place to protect both the hole and its countersunk area. Sheet metal masks are either clamped or screwed into place to protect various other areas.

After the masking has been completed, any low spots on the cast metal frames are knifed glazed, especially around joints. This glaze air dries in 30 minutes; then the frame is dry sanded with No. 2 emery cloth.

### Primer and Undercoat Are Sprayed and Baked

The overhead chain conveyor is 350-ft. long, with hangers spaced on 18-in. centers. It operates through a variable-speed drive at

Die-Cast aluminum typewriter frames entering the surface-preparation setup. Small parts are placed in wire baskets to prevent the high pressure sprays from blowing them away.




FOR low cost . . . for fast, thorough cleaning . . . for strong grip of paint on steel . . . for smooth, lustrous final paint coat . . . there is nothing to equal the OAKITE CrysCoat PROCESS.

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Precleaning in tanks . . . in machines . . .
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*Technical Service Representatives in Principal Cities of U. S. & Canada*

# SUPER-CLEAN AIR saves up to 100 auto bodies daily

*One of two AAF Electro-Cell Precipitators filtering make-up air for auto body finishing operations. The units, equipped with automatic washers, are now in their third year of service.*

**Installation of AAF Electro-Cell Precipitators Slashes Rejects In Finishing Operation**

A LARGE producer of auto bodies desired to supply filtered make-up air for the comfort of the spray booth operators in its finishing department. Two AAF Electro-Cell Precipitators, each capable of handling 216,000 CFM at 300 FPM, were installed as a part of the ventilating system.

Then came the surprise dividend! Previously, rejects due to dust-specked finish amounted to between 50 and 100 bodies daily. Now these labor and material losses are a thing of the past and each day up to 100 extra bodies move on their way to satisfy a car hungry public.

Comfort and cash savings—you derive both from super-clean air as supplied by AAF Filters. There's a type and size to meet every production need. For complete information, contact your local AAF representative or write direct to—

**AMERICAN AIR FILTER COMPANY, INC.**
**210 Central Ave., Louisville 8, Ky.**
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AAF

**AIR FILTERS**
AND DUST CONTROL EQUIPMENT

4-ft. per minute, which gives us a finishing cycle of one hour and 55 minutes. Frames and small parts are suspended from this conveyor.

Work enters the first prime-coat booth where the operator sprays black chromate primer on the front and on one side of the frame. In the second prime booth another operator sprays the same material on the back and on the other side. Black chromate primer is sprayed at a viscosity of 15-seconds, as measured with a No. 4 Ford cup while the temperature is 84° F. Atomizing pressure is 20-lbs. and fluid pressure, 10-lbs.

After the first prime coat, metal shields are fastened securely into side openings of frames to protect the inside of the frame from all succeeding coats. Next the frames and parts enter the first undercoat booth where the operator sprays an undercoat of flat, black, alkyd-resin-base synthetic material on the front and on one side. In the fourth booth another operator sprays the back and the other side. The undercoats are allowed to flash (air dry) for 12 minutes before the coated parts enter an infra-red oven to be baked for six minutes at 400° F.

### Frames and Small Parts Are Finished in Wrinkle

After cooling for 20 minutes, frames and parts enter the first of a series of four wrinkle enamel or top-coat spray booths. The first operator sprays the back of the frame. In the second booth the entire front of the frame is coated. The third and fourth operators spray one side each.

Spraying wrinkle enamel on typewriter frames in a water-curtain spray booth. Notice the masking plate in the side of frame to shield interior surfaces from wrinkle enamel.

The wrinkle enamel is sprayed at a viscosity of 140-seconds, at 84° F., measured with a No. 4 Ford cup. Atomizing pressure is 50-lbs.; fluid pressure, 12-lbs. The standard colors are black and gray, the latter being used for portable models. Of course, special jobs are run to customers' specifications and include a wide range of colors.

After leaving the last top-coat spray booth, wrinkle enamel is allowed a flash period of ten minutes before the coated parts enter a 2-section oven where the wrinkle enamel is baked for 30 minutes. For the first ten minutes, coated parts are in the first section of the oven, which is maintained at 250° F. During the remaining 20 minutes the parts travel through the

second section of the oven where the temperature is 350° to 370° F., depending upon the color. The higher heat is used on black finishes, while the lower temperature is used for gray and other light shades.

### Uniform Wrinkle Finish Is Really Essential

This completes the finishing operations except for inspection, removal of plugs and masks, and the application of name decals. However, I want to call attention to the importance of correct and absolutely uniform formulation of primers, undercoats and wrinkle enamel, as well as their application and all shop conditions.

All of the parts for a complete typewriter are not finished consecutively, nor even on the same day, nor out of the same drum of material. The same material is used to coat the die-cast aluminum and other metal parts, yet all parts are baked at the same temperature, for the same length of time, and under the same oven conditions. They must come out with uniform color, wrinkle pattern and hardness.

When a complete typewriter is assembled, the finish on the frame and other parts must be uniform in pattern, texture, sheen, mar resistance, etc. The only possible way to maintain this uniformity over long periods of time is to depend upon the supplier to furnish the correct formulation of material which will be exactly the same yesterday, today and a year from now. Methods of handling, application of material, and all shop conditions are under careful detailed control. Combine the two with constant care and supervision, and you complete the pattern for uniformity of the final finish.

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## *M. H. Corbin Becomes President of Standard Varnish Works*

M. H. Corbin became president of the Standard Varnish Works of New York, and E. E. Day, president of the Standard Varnish Works of Illinois, both men succeeding J. Heath Wood, who was elected chairman of the boards.

Mr. Corbin has been with the company for 11 years and a vice-president and director for the last four years. After graduating from Lehigh University as a chemical engineer, Mr. Corbin held various important positions in the technical and sales branches of the paint and varnish industry and is an author of numereous articles on industrial finishes.

E. E. Day has been with the company since 1920 and has served as a vice-president and director of the New York Corporation and executive vice-president and director of the Illinois company. He is well known in the industry.

J. Heath Wood, who was elected chairman of the boards, has been president of New York for 18 years and Illinois for 24 years. He is widely known in the industry; has been active in the affairs of the National Paint, Varnish & Lacquer Association, serving as vice-president and on many committees.

Other new officers elected by the New York Corp. are W.B.Day, chairman of the executive committee; C.F.Lesh and H.H. Rittenhouse, Jr., vice-presidents; and in Illinois, M.H.Corbin, J.P.Jordan and A.J. Kestly, vice presidents; I. A. Cowen, secretary and treasurer. New Directors are Carl Bauer of New York and M.H.Corbin, A.D.Robson and L.H.Jenkins of the Illinois Company. A.D.Robson was re-elected vice-president and James S. Wolf, secretary and treasurer of the New York corporation. J.R.Strohm was re-elected a director of Illinois.

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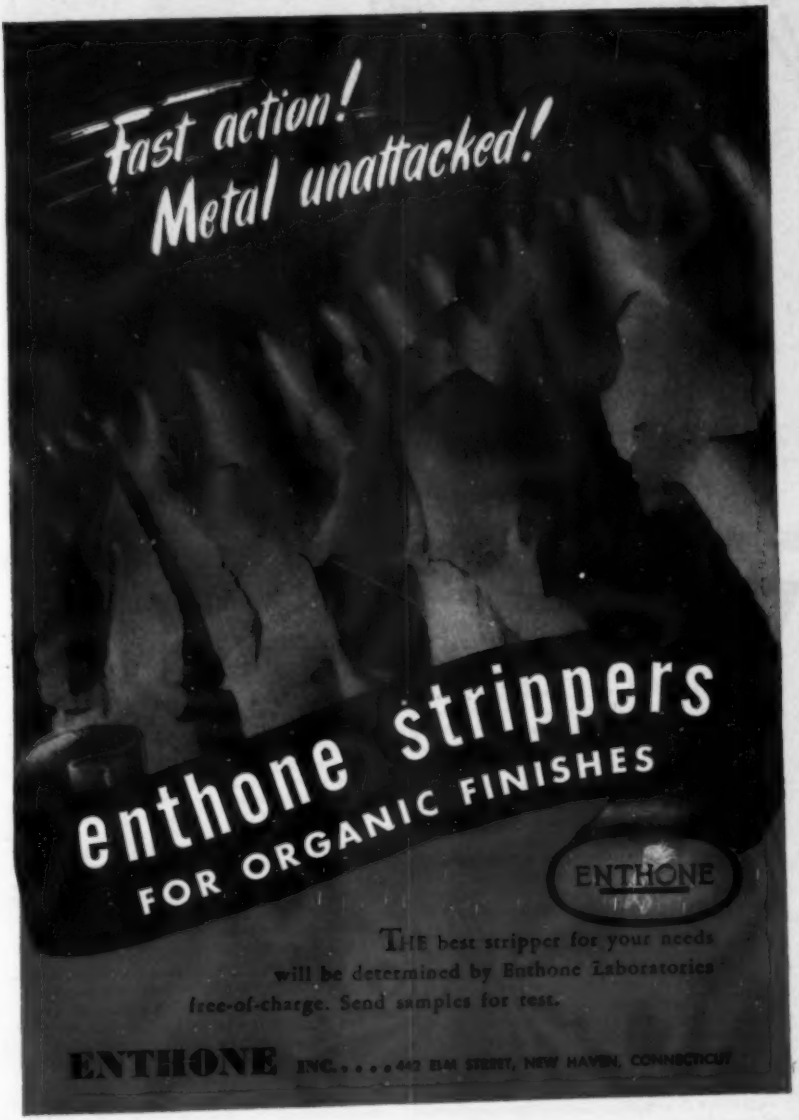
## *Pulmosan Safety Equipment Corp. Moves to New Address*

Pulmosan Safety Equipment Corp., manufacturer and distributor of industrial safety equipment, has moved to 644 Pacific St., Brooklyn 17, N. Y. The new quarters, comprising 25,000-sq. ft. in a 3-story building recently acquired by the Pulmosan firm, will house its laboratories, offices, manufacturing and warehousing facilities. This recent expansion follows more than 20 years' establishment at its former address, 176 Johnson St., Brooklyn 1, N. Y.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# When it's DeVilbiss

## DeVilbiss Hints on Finer Finishing

## SPRAY OPERATOR CARE

As a factor in the production of finer finishes, the care of the spray operator is as important to quality finishing as is the care of spray equipment, finishing materials, or preparation of the products to be finished.

With the control made possible by efficient spray rooms, well-designed equipment, and specially formulated materials, the spray operator becomes one of the principal "variables" on the production finishing line. Every possible effort must be directed toward making his job systematic, less fatiguing both mental and physical, and free of hazards.

Comprehensive training to thoroughly acquaint him with spray equipment, the spray materials, and the product itself goes a long way to establishing confidence and the proper mental attitude toward good work. Emphasis on the necessity of a uniform and well applied finish will help to build the pride in his job that is a prerequisite to good workmanship. Recognition for a job well done is a further aid to the production of finer finishes.

From a physical care standpoint, spray booths should be large enough to allow freedom of movement. If small, completely enclosed booths are used, windows help overcome the depressing feeling of confinement. An adequate exhaust and air replacement system will guarantee the necessary clean fresh air so vital to the endurance of the operator. Well lighted booths and spray areas will eliminate eyestrain and its resulting fatigue. Gun hangers, transformers, valves, and similar controls should be located as near operator's station as possible to save hundreds of unnecessary steps each workday.

Where practical, conveyors or work holders should be arranged to position products in such a way that excessive stooping, crouching or reaching is not required of the operator. Heavy lifting and continuous carrying of parts also reduce the operator's efficiency extensively.

A program of "Spray Operator Care" in your plant, if followed faithfully, will result in endless savings.

*You Know it's the Best*

# IN MATERIAL CONTAINERS!

*It makes no difference* whether you're spraying lacquers, synthetics, porcelain enamels, heavy viscosity materials or flock . . . it makes no difference whether your material handling requirements call for small or large pressure feed tanks or a complete circulating system . . . there is a DeVilbiss material container designed to meet your requirements in every detail.

And when you use a DeVilbiss container, regardless of the type or size, coating material is delivered to the spray gun at controlled pressure and in a uniform condition. This guarantees fine, durable finishes. And you can depend on this because into every DeVilbiss container, large and small, goes all the engineering and manufacturing skill that is the result of 60 years continuous experience in the field.

A DeVilbiss Engineer will gladly recommend the correct material containers for your particular finishing setup. And he'll welcome the opportunity to help you with any or all of your finishing problems.

**THE DEVILBISS COMPANY • Toledo 1, Ohio**

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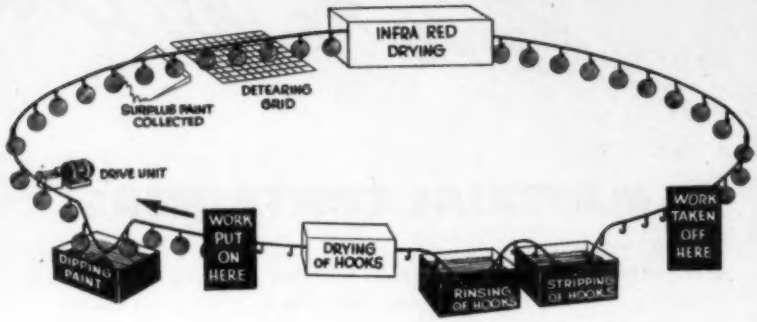


# Modern Techniques in *Paint Stripping*

By Harry Forsberg

**President of The Japan Co., Cleveland, Ohio, reveals some of his experiences with modern cold strippers, and describes a setup for continuously and automatically stripping paint accumulations from the hooks and work holders of conveyor.**

THE STRIPPING of paint and enamel coats from conveyor hooks and work holders, and from finished products that have been rejected and which must be refinished, has always presented the finishing shop with a difficult problem. Naturally the newer type of cold strippers available today are welcome in finishing shops because their use makes possible a real saving in time and expense.

It is now possible to remove the most stubborn of baked coatings in a matter of minutes, simply by dipping the coated parts into a tank of cold solution until the old finish pops loose, then flushing the surfaces clean in a rinse tank. The average elapsed time for stripping and rinsing is usually no more than two minutes.

While cold, fast-acting strippers are a great aid in the process just mentioned, they are even more helpful where conveyor lines are employed to keep pace with high pro-

# ELECTRO COLD STRIPPER

## A RADICAL ADVANCE IN SPEEDY FINISH REMOVAL

▸ Used cold. Non-inflammable. Non-injurious to hands or metal.

▸ Removes paints, lacquers, enamels, synthetics and wrinkles almost instantly, from manufactured products, either metal or wood and from paint hooks, racks, fixtures and conveyor systems used in the application of finishes. For technical advice please send us complete details of your stripping problems.

▸ Will not affect aluminum, brass, copper, magnesium, zinc, steel, cast iron or their alloys in the time required for removal of paint film—even when metal is precision ground or machined.

*Write for sample and quotations—or order 5 gallons at drum price.*

**ALLIED FINISHING SPECIALTIES CO.**

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## CLEAR METAL LACQUER

**For**

**silver, cadmium, zinc, copper, brass, aluminum.**

**OUTSTANDING**

1. Adhesion to metal surfaces
2. Resistance to sulfur tarnish
3. Resistance to oxidation
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Pale in color. Takes 100-200% reduction. Dries under 15 minutes.
A premium product — priced at ordinary lacquer levels.

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# COLD STRIPPERS

## Fast! Economical! Safe! New!

**"UNISOL"**—For removing all baked enamels! Used cold—Non-inflammable—Non toxic—Strips baked enamels in seconds—Used for all type metals—Requires no rinse—Non-injurious to hands or clothing.

**"UNISOL No. 2"**—A new cold stripper for japans and vinyls—Non-inflammable—Strips tough japans and vinyls in matter of minutes—Used for all type metals.

**"STRIPPER 202"**—Something new for removing "stop-off" lacquers in seconds—Will not tarnish highly polished metal surfaces—Non-inflammable—Used cold—Non toxic.

***Samples and further information supplied on request.***

## CHEMCO PRODUCTS CO., Inc.

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## NEW, IMPROVED, LOW COST *Aluminum* Decorative Finish

SPEKALUMINITE

- BRIGHTER • HARDER
- WILL NOT PEEL OR FLAKE
- GREATER RUST & TARNISH RESISTANCE
- LUSTRE & SHEEN OF BRIGHT CADMIUM
- GREATER IN STRENGTH
- LOWER IN COST

## DIP... OR SPRAY AND BAKE!

This new, exclusive aluminum coating is better . . . superior every way! It's applied in a jiffy—just dip or spray, then bake. Produces a beautiful cadmium-bright finish that adheres perfectly to all metals and plastics.

**One Spray Coat Withstands Salt Spray On Cold Rolled Steel Over 200 Hours—**

***Requires no expensive equipment—just a baking oven. Costs less . . . lasts longer . . . looks better!***

***Write for Free Sample and Bulletin No. IF***

SPEC SPECIAL CHEMICALS CORP.

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duction schedules. In such cases, frequent cleaning of hooks and fixtures used for carrying products to be coated, is required. The cost on this non-productive, but essential operation must be held down to a minimum.

### Conveyor Hooks Must Be Cleaned Repeatedly

Long conveyor lines require that, every so often, hooks must be cleaned of paint accumulations to prevent the old paint from flaking off and dropping onto the freshly painted parts, with resulting spoilage of work. This usually means periodical removal of hooks from the line, trucking them to a strip tank, dipping them into the stripper for the time required for cleaning (in the case of some solutions generally an hour or more at a boiling temperature), then removing hooks from the tank, placing them in the rinse tank, drying them, trucking them back to the conveyor line and again attaching them to the conveyor.

In the series of operations just described there is often a loss of hooks. Some hooks become imbedded at the bottom of the cleaning tank and are often not recovered. Others become lost. Seldom is a replacement of clean hooks made without loss of a number of them—and, of course, it costs money to replace them.

To eliminate all of this loss, delay and expense, hooks and fixtures can now be cleaned simultaneously with the finishing operation. It is accomplished by installing a dip tank of stripper along the conveyor line (see illustration). The hooks are automatically cleaned each trip around, thanks to the new fast strippers and the methods which have been developed for their use.

Before the proper stripper can be prescribed for a job, a number of details must be considered. For example, the stripper must be economical in drag-out loss. It should not be so volatile that evaporation will prove expensive, or fumes become offensive and probably toxic. It must strip off the paint coatings effectively at room temperature, or as close to room heat as possible, to eliminate the use of expensive heating equipment.

Strippers should be supplied at a specific gravity heavier than that of water. This is to permit the use of water as a blanket to cover the stripper and thus reduce evaporation to a minimum. Split second timing must be established so that the length of tank, based on the speed of the conveyor, may be determined. Proper safety factors should be taken into consideration in selecting and using the stripper; also in determining the size of tank, fire hazards, etc.

### Stripping, Rinsing, Drying Setup Suggested

The tank itself may be suspended overhead or positioned below the chain conveyor in an arrangement similar to what is used for dipping articles into paint, see illustration at beginning of this article. Of course, this arrangement will depend on what space is available.

As hooks leave the stripping tank, with loosened paint particles still clinging to them, they enter a rinse stage provided at a point im-

mediately following the strip tank. The rinse tank is so constructed that it provides water which is pumped through spray nozzles at a force sufficient to knock off all loose paint particles. These particles of removed material fall onto a drain board over the rinse tank and are collected in a reclaiming zone provided in the rinse tank. Where a short travel necessitates quick drying of the cleaned hooks, infra-red lamps or some other type of drying zone can be installed.

### Maintaining Used Stripper At Full Strength

Recognizing the fact that certain finishes, plus continuous stripping, can cause the stripper in the tank to change under prolonged usage, a supplier of our acquaintance recommends that samples from the tank be submitted to him periodically for examination. In shipping, this firm numbers its drums in consecutive order so that replacement formulas can be provided to insure full strength and also maximum efficiency at all times.

Naturally, in this brief article I can only treat the subject of stripping in a general manner. The diagram at the beginning of the article will aid those who are interested in following the continuous method more closely. Should any specific information be required by readers, I will be pleased to refer anyone who writes me to our sources of supply. The concern is well qualified, from experience and with technical and laboratory facilities, to give any practical information and assistance.

This lipstick is highly resistant to acids, alcohol, alkalies, rubbing and humidity—without possibility of surface breakdown.

## *Lilly Paint Products Appointed Distributors for Devoe Brushes*

Lilly Paint Products, Inc., 2044 N. Rural St., Indianapolis, Ind., has been appointed exclusive distributor for Devoe & Raynolds "Brush-Kraft" brushes for the Central Indiana Territory. The Devoe & Raynolds Co., manufactures a complete line of brushes at its huge, modern factory in Princeton, Ind.

## *Metalwash Machinery Corp. Opens Office in Detroit*

The Metalwash Machinery Corp., 149-155 Shaw Ave., Irvington 11, N. J., announces the opening of its new Michigan office located at 6432 Cass Ave., Detroit, Mich. Mr. Webb L. Nimick will be in charge of this office.

Mr. Nimick, a graduate of Yale University, has heretofore been in the Metalwash main office in Irvington, N. J., where, as an engineer, he has been working on the development and design of metal parts washing, pickling, drying, and processing equipment. Mr. Nimick will represent Metalwash in the State of Michigan and will be available for consultation and information regarding all types of metal cleaning equipment.

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## NON-INFLAMMABLE « *wax free* REMOVER »

**for paint, varnish, lacquer, baked enamel, adhesives**

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**I. C. D. FORMULA 9** is the standard of safety and quality . . can be sprayed or brushed . . doesn't raise grain nor discolor . . quickly removes all kinds of finishes and coatings from any surface or material . . costs less to use . . saves time, labor and material.

**BRUSH CLEANER I. C. D.**— non-inflammable brush cleaner works fast . . does not injure nor loosen the bristles. Easy to use . . leaves the bristles clean as a whistle. Order a gallon can and convince yourself.

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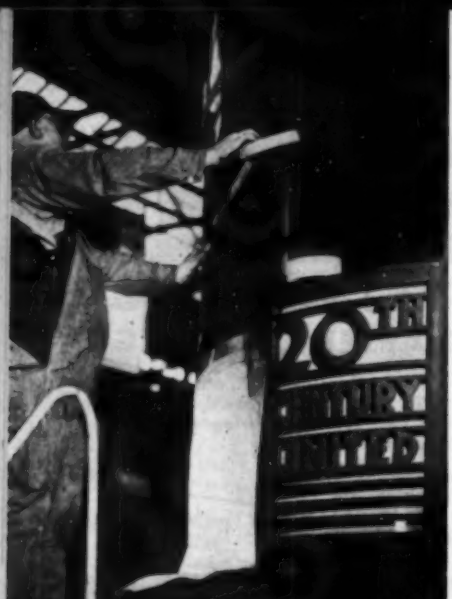
# PRESSURE

By P. C. BARDIN
*Associate Editor*



Applying masking tape to form stripe on the Century's new end car. Photograph, courtesy of Industrial Tape Corporation.

AMONG THE many different accessories used in connection with modern production painting, probably none is quite so important as pressure sensitive tape — perhaps better known to many users as "masking tape". This product has many uses other than that of protecting or shielding certain areas during spray painting operations. Some of these will be briefly discussed later.

Pressure sensitive tape for general masking purposes is available in standard widths of ¼, ⅜, ½, ⅝, ¾, ⅞, 1-in., 1¼, 1½, 2-in., 3 and 4-in. It is packaged by various manufacturers in 60-yard rolls and packed for shipment in bulk cases containing from 144 rolls of ¼-in. to as few as eight rolls of 4-in. tape. The smaller users can get it in shipping cartons which have a dozen rolls each.

## Various Sizes and Kinds of Tape to Suit the Job

For general masking use, tapes may be divided into two types—crepe back and flat back. Crepe back tape is very flexible. The user can easily make it follow curves and uneven contours. One manufacturer's specification shows this tape to be 9-mils thick; tensile strength 20-lbs. per inch; adhesion 30-oz. per inch, and stretch at break 12%.

By comparison, flat back tape is thinner and less flexible. It is intended for use in straight line masking, where a sharp clear line is desired.

It is possible to obtain crepe-back tape which has an adhesive that will withstand oven baking, so

# SENSITIVE TAPES . . .

## *Their Uses and Possibilities*

that metal parts may be masked, sprayed and baked in either convection or infra-red ovens, and the tape removed afterward. This tape can also be used for protecting bright chrome finish against the heat during baking operations in the repair painting or refinishing of automobiles and other products.

Both types of tape (crepe and flat back) are made in various thicknesses and strengths to suit particular jobs and purposes. For instance, there is a crepe tape produced with low tack, having an adhesion of only 5-oz. per inch, for temporary or short term protection of metal surfaces. Also, a flat-back tape with the extraordinary adhesion of 40-oz. per inch is available for the real tough jobs. One manufacturer produces a crepe-back tape especially designed for masking white and light pastel colors. Another type of tape is highly resistant to moisture.

Pressure sensitive crepe-back tape is also available in various

Removing paper and masking tape after spraying a decorative color band on hood and cowl of a truck. Notice the clear sharp lines. Photo, courtesy Minnesota Mining & Mfg. Co.

Masking tape used to form insignia and background on side of an airliner. Photo, courtesy Minnesota Mining & Mfg. Co.

Spray Painting masked letters on side of a Pullman car. Edges of letters must be sharp. Photograph, courtesy Industrial Tape Corp.

sizes and shapes, die-cut for masking name plates on various products, valve and spark plug apertures in aircraft and automobile engines, etc. These die-cut shapes are generally made of high-temperature tape to withstand the heat used for baking finishes. Upon removal after baking, no adhesive residue remains on metal surface.

### Die Cut Stencil Masks for Large Surfaces

Stencil masks, made of pressure sensitive tape, are used in connection with the painting of insignia, lettering and numbers on Pullman cars, aircraft, boats, etc. These stencils may be obtained with a die-cut border to produce a two-color outlined figure or letter.

For border work, the stencil mask is applied to the surface by pressure; then the center or main portion of the mask is removed, and retained. The main color is sprayed on and allowed to dry. Then the die-cut border is removed, and the center or main portion is replaced. Next the contrasting border color is sprayed on to make the outline or pin stripe effect. If the number or letter has a floating center such as an 8, 6, A or B, a piece of ordinary masking tape may be used to anchor the center until the mask is adhered to the surface.

On some jobs, wide color stripes are made by spraying the striping color before masking. When the sprayed area is dry the workman masks the stripe with tape of the proper width and then sprays all of the surrounding color. Of course, this would not be good practice if the striping color (for example,

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*Unretouched photo of Revo-File demonstrating unit (Egyptian finished) after many years' use.*

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*The Egyptian Lacquer Mfg. Co.*
*P. O. Box 444, Newark 1, N.J.*

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red) should have a tendency to bleed through the body color which might be white or some light color.

### Masking Tape Used to Make Two-Tone Effect

For many jobs, masking tape is used principally for shielding certain portions of bare or painted metal or wood surfaces from coating materials during spray painting operations. For the protection of relatively large areas, large sheets of paper are held in position with a continuous strip of narrow tape (say ¾ to 2-in. wide) applied at the top, and sometimes at the bottom and ends, depending upon the areas to be painted. Tape is especially useful in painting railroad coaches, buses, trucks, boats and automobiles where 2-tone effects are desired, or for producing streamline designs, color bands, lettering, etc.

### How Masking Tape Is Used to Form Stripes

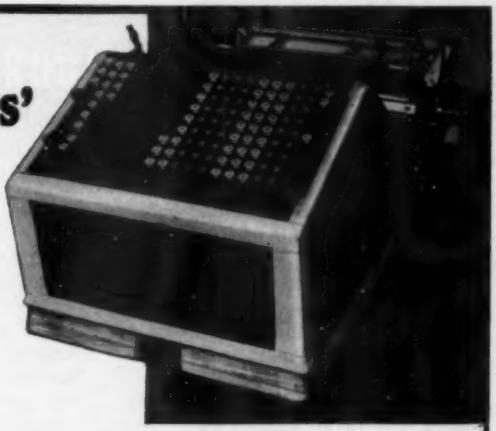
Practically all stripes, except those made with a hand striping brush or with a mechanical striper, are made by masking the prefinished surface with tape, or with paper held in place with tape, then spraying the color stripe on the exposed surface. On especially long stripes—for instance, the length of a railroad coach—the top edge of the lower masking paper (and the bottom edge of top paper) is held tight and secure with a continuous strip of tape. The bottom edge of the lower paper (and the top edge of the top paper) is anchored at intervals with short strips of tape placed at right angles to the length, so that the paper will not flare out to permit overspray to contact the surface being masked. This method is used only in the event that no spray painting is to be done along the lower edge of the masking paper.

### Modern Production and Precision Masking

Where die-cut masks of pressure sensitive tape are used, operations

Masking surfaces of a trolley-bus to allow spray painting of decorative color bands. Photograph, Minnesota Mining & Mfg. Co.

# Burroughs' Fine Finish Stays Fine



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Burroughs Adding Machine Co. takes no chances of marring their top-quality finishes. Strips of tape No. 158 protect edges and corners of machines during assembly and storage.

Bauer & Black's No. 158 is a *quality* tape, made for application to fine finishes you're proud of. It holds and protects parts, *then pulls off clean.* No adhesive residue is left.

Manufacturers and shippers of many enameled goods can get the *protection* they need with non-staining tape No. 158.

For further information or for FREE test samples, write Dept. 4-3, 2500 S. Dearborn St., Chicago 16. No obligation.

**Photo courtesy of the Burroughs Adding Machine Company, Detroit, Mich.*

*A product of*

**BAUER & BLACK**

*Division of The Kendall Company, 2500 S. Dearborn St., Chicago 16*

**Industrial Adhesive Tape**

PRESSURE SENSITIVE

Production Short Cuts to Reduce Costs • Research to Speed and Improve Methods

can be made easier and faster by temporarily sticking the masks on handy storage boards conveniently placed for the worker. The various shapes are lined up in rows on these boards with the top edge of each mask loose (that is, not adhered to the board) so that the operator can see the mask, pull it off the board, and apply it on the product easily and quickly. This method is especially useful when masking parts as they move along on a conveyor.

Die-cut masks made of tape also play an important part in precision masking. An example would be on a product where several small masks are to be spaced apart, but positioned accurately with relation to each other. Such a mask is made in a single unit with the separate masks die cut. The single unit is applied to the surface, then the excess adhesive material is removed, leaving each of the remaining masks in correct position.

## Many Other Uses for Pressure Sensitive Tape

Other uses for pressure sensitive tape include: Masking surfaces for sandblasting; fastening drawings to the drawing board; for photographic use; in sealing cans and boxes; and for reinforcing woven materials such as rattan seating, during work in process and after the seating is installed. Double coated tape is used for displaying small merchandise on boards or cards and for various purposes by photo-engravers. Then there are wa-

Accurate die-cut masks being applied to openings in an aircraft engine prior to spray painting and baking. Masks remain in place until after the finish is baked. Notice the handy storage boards for die-cut masks. Photo, courtesy Minnesota Mining & Mfg. Co.

# FOR FAST PRODUCTION... *lower cost!*

REPLACE LACQUER OR VARNISH WITH
SYN-POR FORCE DRY CLEAR

**FINISH—
PACK—SHIP IN
ONE DAY**

• SYN-POR Force Dry CLEAR Product Finish is the answer to today's high production demands. It reduces drying time from three days to a mere four hours or less! SYN-POR Force Dry CLEAR Product Finish is greatly mar-resistant, and withstands hard usage.

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- *Great color retention properties.*
- *Available in White and any color.*

*Write for descriptive information and sample panel.*

*Over 50 years Manufacturers of Enamels and Lacquers*

SYN-POR DURO FINISH

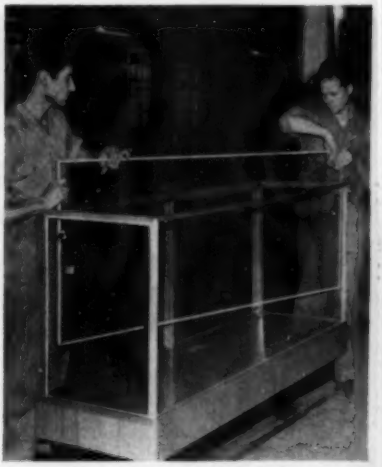
**O'NEIL DURO COMPANY**
MILWAUKEE 7, WISCONSIN

terproof tapes and tape in various colors for indentification purposes.

### Pressure Sensitive Tape Used for Protection

In a number of factories pressure sensitive tape is used for holding in closed position, the doors and drawers of stoves, refrigerators, washing machines, ironers, cabinets and furniture while in transit. Much of the tape used for this purpose has a backing of bleached print cloth coated on one side with synthetic rubber adhesive. Two characteristics of this tape are of real importance: It has excellent adhesion and it is non-staining. When removed from the surface, no adhesive residue remains.

Some of the pressure sensitive tapes used for electrical applications have glass-fiber cloth backing; others have a backing of polyethelene, with high insulation value.



Cloth-back tape protects the edges of the glass, prevents cut hands, and "cushions" the glass for a better fit in the showcase. Photograph, courtesy of Bauer & Black, Division of The Kendall Co.

The ornamental metal door handles, as well as the doors of this radio cabinet are held closed, by cloth-back pressure sensitive tape, during transfer from manufacturer to retail store. Upon removal, the rubbed natural finish will not be marred. Photo, courtesy Bauer & Black Division of The Kendall Company.

Rugged cloth back tapes may be used for protecting edges and corners of wood or precision metal products during fabrication and assembly, as well as in transit; likewise, they afford protection for operator's hands in handling sharp edges on either metal or glass. In some cases tape is applied to the product for dual protection, while in others—where double protection is not required—the tape is applied directly to the hands and fingers of the operator.

It has been found that cotton gloves wrapped with heavy cloth-back tape, last many hours longer

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Doors and drawers of this white enameled stove are held firmly in place during transit by tape. When removed there is no stain or telltale marks. Courtesy Bauer & Black Division of The Kendall Co.

when used for handling products that have sharp or rough edges, such as glass, metal castings, etc.

### Storing and Handling New Masking Tape

There are a few common-sense rules for handling and storing masking tape which, if followed, will assure easier and more satisfactory application. Tape should never be held in storage over prolonged periods. Always use the oldest tape first. The life of the adhesive is probably six months or better, but fresh tape always works better. The storage room should be cool, dry and well ventilated, with say an average temperature of about 75° F. and a relative humidity of 35% to 50% the year around.

Tape should be stored in shipping containers; not stacked in loose rolls on shelves. It is important to avoid exposure to sunlight during storage, as prolonged exposure to the sun's rays will hasten deterioration of the adhesive.

In handling masking tape, it is best to avoid unwinding more than will be used immediately. Also, avoid unwinding tape in a hurried nervous jerking manner, as this is likely to cause kinks and "build-up" at the point where the quick pull or jerk was made. The correct way to unwind tape is to use a continuous, steady pull until the desired length is obtained. [END]

Here masking tape is used to hold kraft paper in place where it shields the lower part of a bus while the upper part is being sprayed with a contrasting color to produce a 2-tone effect. Photograph, courtesy of Minnesota Mining & Mfg. Co.

# THE SILK SCREEN PROCESS FOR *Industrial Users*

By J. I. BIEGELEISEN

***Author and Technical Consultant on Silk-Screen Printing***

(PART II)

THIS IS THE SECOND in a series of three articles on silk screen work. The first one acquainted you with the process as a whole and touched upon a number of techniques of stencil-making. In the present article, we'll have a chance to review some of the latest advances and developments about which the process boasts. And in the last article (to appear next month or later) there'll be a round-up of questions and answers on just about everything you may want to know about the process. So while the first two articles may leave some question unanswered, we're sure that the last one will take up the slack.

Here are some interesting highlights on silk screen work. Some represent new developments from a technical point of view. Others are merely extensions of the applications of silk screen printing to new fields. Some represent improvements in materials and supplies. Perhaps there will be something in these various categories that may be very meaningful to you in the field of industrial finishing. Perhaps you'll get an idea of your own that is not mentioned here.

### Silk Screen Printing Machines for Flat Work

Several screen printing machines now on the market promise to change the scope of silk screen work from a hand craft to a machine process. Printing or stenciling by manual operation, which consists of dragging a rubber squeegee across a stencil and pushing the design through, yields about 200 to 300 impressions an hour for a crew of two people. There is no fixed rate of production. It depends on how large an area you are printing, the quality of the

stock (whether it is light-weight cardboard or heavy gauge metal) and, of course, the human factor is not to be ignored. As the squeegee operator becomes tired, he slows up.

Advantages of a machine for doing this work are obvious. However, let's not dwell too long on the comparison between hand craft and mechanization. There are several machines available, sold under different trade names, but all sharing the following claims:

1) Speed: 500 to 1000 impressions an hour.

2) Interchangeable screens: Quick changeover from a 14x22-in. screen to a 22x28-in. size.

3) Accuracy in register: Either automatic feeding or hand feeding. Register guides protrude through the base during feeding but disappear as soon as the printing screen is lowered.

4) Adjustability to quality and thickness of stock: Can be adjusted to print paper, cardboard, metal, wood, etc.

5) One-man operation: One operator can print, rack and work independently on his own unit.

6) Portable: The automatic printing unit is portable; it may be rolled about and stored away when not in use.

7) Price: Varies from $1100 to about $4000 depending on make, capacity in size of printing area, range of speed of production, etc.

The development and use of special machines for silk screen printing on round (cylindrical) objects has caused quite a stir in the container-printing field and has affected the label-printing industry. By means of a silk screen setup, it is practical to print a colorful design and lettering directly on bottles or containers of any shape. That's how most milk bottle identification is now handled. What's more, the process has proved itself so flexible that even the humble milk bottle is being dressed up, not just with a minimum of identifying marks, but with a design or trademark in color.

### Silk Screen Printing Beverage Bottles, Etc.

More and more of the beverage bottles we see today are dressed up by silk screen stenciling. Conventional paper labels are disappearing from the 7-Up beverage bottle and from other soft drink containers. The silk screen direct printing method offers too many advantages over the paper label to be confined to beverage and milk bottles alone. Next time you pass the perfume counter in your department store, linger a bit and you'll see how many of the fine bottles and glass containers carry a silk screen printed design.

Silk screen printing on round surfaces is controlled by a patent held by a concern in Beaver, Penna. However, this firm is generous in granting licenses to container-printers and practically nobody of reputable background is denied the right (on a royalty fee basis) to set up the silk screen equipment. The machines are perfected enough today to make mass production possible and profitable.

As more uses are found for silk screen printing and stenciling, new demands are made on paint manu-

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Jensen "dual heat" infra-red ovens, with "nested" lamps, are used in this operation . . . for both dry-off and high-bake.

Marvel chose Jensen for this critical job because Jensen "nested" lamps assure *even* color *over all,* eliminate reject hazards, produce a hard finish that stands up under gruelling trailer-coach conditions.

**Jensen "dual heat" Infra-Red Ovens are designed to industry's specific needs. Write us about YOUR problem today!**

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facturers. It should be obvious to anyone, even if he is not so well acquainted with silk screen work, that the same type of paint would not be equally suitable for all of the possible materials that can be silk screen printed. Not only are there obvious differences in the properties of wood, cloth, metal, paper, glass, plastic, etc., but each manufactured and printed commodity may be put to a different use, to a different test.

Will the finished product be flexible? Will it have to be bent or folded or scored? Is it intended for sheltered use or will the finished product be continually exposed to the weather? Will it have to withstand slow natural corrosion or the unrelenting, biting action of acid?

Today, you can get a suitable paint for practically any kind of silk screen application. We speak of "paints" but it would be more correct to use the all-inclusive term "media". Paint is just one of the media. There are others such as lacquers, enamels, dyes, etc., all recently perfected. First, however, let's talk of paints.

### Oil Paints That Dry Quickly

Oil paints are available which will air-dry in one to four hours. There is a new paint on the market that dries in half an hour. With the intermixing of the proper varnish, paints can be made to produce films that are dull or glossy, brittle or flexible, etc. The paint film can be made to stick to glass, plastic, metal, foil, rubber, wood, etc. For printing on ceramics or glass there is a paint which, when baked, fuses into the hard material.

There is a special paint to use for flock finishing; it has the proper "tack" yet works beautifully with the stencil. Want to print on plastics? Or on perfume bottles? There has been enough experimentation in that line to make such a paint available without "secret" formulas. These paints can be had in opaque or transparent.

### Tempera Paints, Lacquers, Enamels, Dyes, Etc.

Tempera paints are water-thinned paints. They are brilliant in intensity and dry in a matter of minutes. The chief limitation of this type of water-thinned paint is its lack of opacity. They are good for printing color swatches for catalogs, color selectors and samples.

Lacquers are available for printing on cloth and for decalcomanias. Silk screen lacquers dry within an hour; they are very flexible and strong in intensity.

Enamel paints dry with a high gloss finish and give a built-up effect to the printed matter.

Dyes are used principally for textile printing. They are brilliant in color but lack the opacity to make them serviceable for printing on dark grounds. For flexibility, dyes are unsurpassed by any other silk screen printing media. One of the unique uses of dye is for printing on furs. By means of silk screen printing, the humble white rabbit fur is changed to leopard.

*Etching Compound.* This is a chemical paste that is used to stencil a frosted design on glass.

*(Continued on page 62)*

# 76%

# OF LANLY OVEN ORDERS

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# have been REPEAT orders

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**Literature is available of course.**

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*HEATED BY GAS, OIL, ELECTRICITY OR STEAM*

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Though it permanently etches the glass, it calls for no special care in handling, is safe to the touch, and does not injure the stencil.

*Acid Resist Compound.* Your own favorite asphalt etch resists compound can be applied even on metal by means of silk screen.

Any viscous medium—glue, paste, rubber cement, protective and gloss varnish—can be screened if it is properly "slowed up" so that it will not dry into the screen. Glue, paste and rubber cement and latex compounds are screened industrially for various purposes. Even molasses or honey could be silk-screened.

## Developments in Stencil-Masking Methods

Whereas the customer of a fabricated product bearing a silk screen design or emblem is not concerned with developments in the technique of the stencil-making methods of today, he is, nevertheless, the beneficiary of those improvements. He can expect, due to recent developments, a print that is sharp, clean and uniform. What's more, he is not confined to certain types of design or size of lettering. By means of the photographic method, practically any type of line drawing can be duplicated.

Producing fine work, we understand, is not the sole prerogative of silk screen printing. Other methods of printing can do as fine printing, and even better. However, when one takes into account the unique merits of silk screen work in comparison to other methods, the fact that now even very fine work can be silk-screened is a significant consideration.

## Limitations Imposed by Old Methods

Before introduction of the photographic and hand-cut film methods the process had decided limitations. The work was rough on texture, the edges of letters showed the mesh of the silk. Moreover, there were physical limitations on how fine a stencil could be made. Two principal methods were employed. The first was the method of blocking out the silk with lacquer, produced at great "pains" and with crude results.

The stencil was made by painting around the design. This wasn't difficult for large areas. Any sign painter has the ability to "cut around" (paint around) large areas of a design or lettering. It's easy enough to paint in the background of a 2-in. letter, but try to do it on ⅛-in. lettering and see the results. They are just what you would expect. The results are invariably rough, the lines run into each other, fine lettering is hardly legible. And so for the stencil maker, long exposure of this type of work could lead to his going blind on the job.

Then came the tusche method. Here the stencil artist still painted on the silk. This time, he painted the design itself; he didn't paint around it. The results were better but he still had to work to actual size—and, at that, on the unsmooth texture of the screen of silk.

## Photographic Method of Stencil Making

The photographic method saved the stencil man from blindness or insanity. But that's incidental to

# a TOUSEY *Exclusive!*

## A Specially Developed Coating for the...

**FULTON SUN SHIELD**

When the Fulton Company, manufacturers of automotive equipment, wanted a special protective coating for their famous Sun Shield, they turned to Tousey Varnish Co. As a result, the Tousey Special Product Department developed an all-purpose weather and abrasive resistant finish on the underside of the shield, and, at the same time, a primer for any type of topcoat. It is typical of the many special finishing problems which Tousey is solving for all types of industry.

*We welcome your inquiries*

TRADEMARKS OF DISTINCTION

**TOUSEY VARNISH CO.**

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our story. What is important is that it has improved the quality of the work tremendously. In fact, it has revolutionized the process. No longer does the stencil-maker have to reproduce the art at actual size. Today, any type of line drawing or lettering can be reproduced painlessly, even 8-point type or the most delicate and intricate line work of an emblem or trademark. The art work can be made actual size or larger. A larger piece of art work, carefully worked over by an artist, can be reduced to postage stamp size by the simple expediency of the camera.

A positive transparency is made of the art work. A special photo stencil is sensitized and the positive is placed over it, then exposed in a vacuum or ordinary contact frame. The film is then developed in warm water and adhered to the silk screen. Once you have the art work, or black and white printer's proofs, it does not require an artist to make the stencil.

Photographic methods are perfected today so that half-tone work is feasible in one or more colors. Many of the Coca-Cola metal signs showing a pretty girl fondly looking at the familiar coke are produced by the photographic silk screen process.

### Four Color Process, as Applied to Silk Screen

The 4-color process, applied to silk screen, is not as simple as the one-color line or half-tone work. Much experience and elaborate equipment are involved. There are a number of plants especially equipped to handle 4-color process silk screen work. However, most shops can do a good silk screen job for you with the one-color photo method in line or half-tone. I do not want to oversell the photographic stencil method to the point where you could expect 133 line silk screen half-tone work comparable to letterpress. Yet I do not hesitate to say that for identification and design, the photographic methods extend the possibilities of silk screen reproduction to a large extent.

In 1932 the hand-cut film was introduced. This overcame one of the drawbacks discussed a little while ago, namely, rough edges. The major part of all silk screen printing is done through hand-cut film stencils. For sharp, clean edges, this method is unsurpassed. Its chief drawback is that it is limited to how small a design one can cut. For commercial work, for posters, printing on tea trays, furniture, novelties, etc., the film method is ideal. It is better than any other method for obtaining a raised or embossed effect. You see, the film comes in various thicknesses, and if for some reason or other you want an unusually heavy deposit of paint, getting a heavy film helps. You'll also need the proper squeegee, right paint mixture and other things, but the heavy film is the right start.

An interesting use has been made of stencil film for which it was not intended when it was originally introduced. Its main use is as a stencil to adhere to the silk screen. However, it can also be used as a quick way to make a hand-cut "positive" for photographic work,

**The human eye is not accurate enough to match F. S. "whites"**

**THIS SCIENTIFIC INSTRUMENT GUARANTEES A PERFECT MATCH EVERY TIME**

At last it is possible to *duplicate perfectly* any white baking enamel. Whether you manufacture refrigerators, ranges, cabinets, washing machines, water heaters or any product with white baking enamel—your finish-matching worries are over. This special photo-electric quartz spectrophotometer measures the colors in any white finish *exactly.* Its use in the Ferbert-Schorndorfer laboratories is your assurance of color uniformity. Call on us today. No obligation. Ferbert-Schorndorfer Co., Division of American-Marietta Co., Cleveland, Ohio.

F-S

**FERBERT-SCHORNDORFER**

*Custom Industrial Finishes*

FOR ANY PRODUCT OR PRODUCTION PROBLEMS

either for silk screen or photo-engraving. It's an ideal way to cut a frisket to be used in photography. A special film, amber in color, is made for that purpose. It is transparent, yet serves as an excellent opaque mask for photographic contact print exposures.

### Silk Screen Stenciling Serves Variety of Uses

As we said in the beginning of this article, new uses are found for silk screen work and the suppliers of silk screen material and equipment are challenged to keep up with improved and specialized products.

During the war there arose a need to print signs that would glow in the dark. A phosphorescent silk screen paint was developed that did the job and the silk screen stencil laid on as heavy a deposit of paint as the specifications called for. Then there was a need for a paint that could be used for silk screen on glass, a paint that would not chip.

Manufacturers of milk bottles, beverage bottles, cosmetic containers, etc., now have at their disposal a cold paint good for limited use or a ceramic paint that becomes permanent when fired. There is a paint that is alcohol-resistant. There are metallic paints that are good "printed" conductors of electricity. There are all sorts of varieties for spot or all-over varnishing jobs, either dull or gloss. There are special dyes for textiles, special paints for wallpaper printing, flexible paints for printing leather, bookcloth, etc.

A new line of paints and lacquers has recently come on the market for silk screening decalcomanias. Special stencil units can be constructed to fit the contours of irregular and odd-shaped surfaces, either convex, concave or unclassified.

In conclusion, remember the basic principle of silk screen work. That remains simple. Any paste-like substance can be stenciled through a screen. It doesn't matter whether it's an all-over coating, a design, a pictorial, a trademark or lettering.

Can you think of any way in which silk screen can fit in with your production program?

*(To be continued.)*

---

### Devoe Personnel Changes

Mr. Elliot S. Phillips, president of Devoe & Raynolds Co., Inc., 44th St. & First Ave., New York 7, N. Y., announces the following personnel changes:

Wm. C. Dabney, a director and Senior Vice President of Devoe & Raynolds Co., has been elected Chairman of the Board of Jones-Dabney Co. and has been placed in charge of all company plants, as well as all of its research and development activities. His headquarters are in Louisville, K. Y.

Renshaw Smith, Jr., a director and Vice President of Devoe, will supervise the Sales Personnel and policies of the Devoe and Wadsworth-Howland paint divisions of the company.

Roscoe H. Sawyer has joined Devoe as Assistant Chemical Director, and has now assumed his duties as active head of the laboratories. This will enable Dr. Long, Devoe Chemical Director, to meet the ever-increasing demands for his services in the field by the Sales Department.

Andrew W. Bornhauser has been elected a Director and Vice President of Devoe in charge of Industrial, Marine and Railroad Division of Devoe. He is also elected President of Jones-Dabney Co., Louisville.

Clarence W. Slocum, a director, has been elected a Vice President of Devoe in charge of Eastern Industrial, Marine and Railroad Division.

The Peaslee-Gaulbert Paint & Varnish Division at Louisville, will be under the direction of E. P. Kelly, a Director of Devoe.

Truceon Laboratories Tile & Chemical Division, Detroit, is under the direction of Dr. R. A. Plumb, a Director of Devoe, Assisted by George L. Turner and Earl Thompson.

# Finishing and Refinishing in *Custom Furniture Shops*

By Rollin H. Wampler

**Suggested materials, equipment, methods and proper layout of working space for shops that specialize in custom finishing and the refinishing of furniture.**

WHILE CUSTOM and production finishers may use the same materials and similar schedules, differences in their methods of operation create certain special problems for the custom finisher that do not plague his brother in the larger plants.

First of all, the custom finisher must refinish and recondition some furniture, which nearly always involves removing the old finish. That in itself is one of the worst headaches in the custom shop.

Further, because of the smaller volume and variety of his operations, the custom finisher cannot have conveyors, automatic dipping and spraying equipment, drying ovens, and other large-scale production facilities

Then too, the custom finisher must be more versatile in the field of color styling, for he may be called on to renovate or duplicate anything from a genuine old master antique to a light-colored modern piece.

To add to his difficulties, the custom finisher is not ordinarily a large user of finishing materials. For this reason manufacturers of industrial finishing materials do not usually solicit his business very zealously, nor do they give him the attention and service he sometimes needs. The custom finisher often feels that he is handicapped in his efforts to keep abreast of developments in the field of modern furniture finishing.

### Removing Old Finishes Is Often a Tough Problem

As previously mentioned, the removal of old finishes is perhaps the toughest problem for the custom finisher. Scraping and sanding off the old finish are too laborious and time-consuming to be practical. Hot alkali solutions are impractical for general use because they are likely to raise the grain of the wood and they may damage fine veneers, glue joints, etc.

Probably the best practice is to use solvent-type paint and varnish removers. One way to use them is to have one or more shallow metal tanks, each tank about 3x5-ft. and about 12-in. deep, fitted with a plywood cover. In a tank you can use

wax-free removers which your supplier can furnish. Some removers contain wax which slows down the evaporation of the fast, powerful solvents when the remover is brushed on, as is the general practice. However, if all traces of this remover wax are not entirely removed from crevices and carvings before refinishing begins it may spoil the gloss, flow, toughness and adhesion of the finish, as well as seriously interfere with drying of the finish.

If the furniture can be immersed, one surface at a time, the finish can be soaked as long as necessary and then it can be easily scraped off with a flexible putty knife, a stiff-bristle brush, or steel wool. The putty knife should be well honed and all edges slightly rounded to remove any nicks and sharp corners which might damage the wood surfaces.

### Suggested Technique for Removing Old Finish

When or if quicker results are desired, the piece can be immersed as far as possible in the tank of remover and the remaining surfaces can be covered with burlap or rags, which should be free of buttons, snaps, pins, etc. These rags should be kept wet with the remover. They will retard evaporation of the wax-free remover and will keep the surface wet long enough to soften the finish.

The tank of remover should be kept covered when not in use. Under no circumstances should there be any open flame or other fire source in the same room where solvent-type removers are in use, because their vapors are highly inflammable and even explosive. Use plenty of ventilation, and do not allow smoking anywhere in the room. Discard used rags at a safe place; they are a fire hazard.

The use of a tank with wax-free remover eliminates the tedious washing afterward to remove traces of wax, and it makes the job cleaner. It is economical too, because the remover can be used until it becomes quite saturated with removed finishing material. However, quite a lot of remover must be used to get a depth of 2-in. or 3-in. in the tank.

### Methods of Using Wax-Type Remover

Many finishers prefer to use a convential wax-type remover that can be purchased in any local paint store. It also can be used in a tank, as previously described, which makes the job cleaner. If no tank is available, spread old newspapers on the floor, set the furniture on the newspapers and brush on the remover. This will usually soften the old finish in a few minutes.

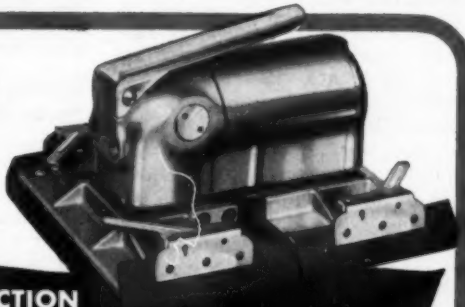
Sometimes a finish that is difficult to remove must be softened and scraped several times. Labor can be saved by covering the surfaces with old rags and keeping them wet for an hour or more by pouring on more remover when required.

After all surfaces have been cleaned they should be thoroughly washed with lacquer thinner, VM & P naphtha, or alcohol. Use stiff-bristle brushes in corners and carvings to insure removal of wax. Wipe the surfaces clean and let

# National Air Sanders

**MODEL 300**

*Weighs 5½ lbs.*

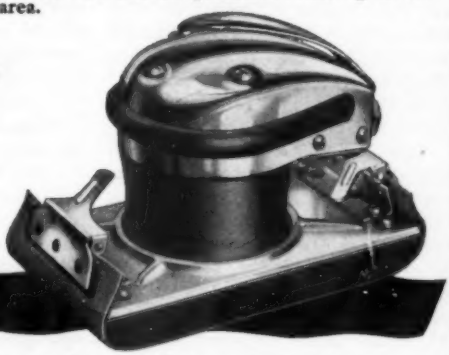


**RECIPROCATING ACTION**

For a perfect finish without swirls, circles, or gouges, use the straight-line, Model 300 National Air Sander. It will save time in filling, sealing and rubbing. Makes 2000 ¾"-strokes per pad per minute . . . requires 60 to 100 lbs. air pressure . . . has up to 50 sq. in. of abrasive area.

**MODEL 400**

*Weighs 4 lbs.*



**ORBITAL ACTION**

Even on small, narrow, and irregular pieces, the Model 400 will save time and energy and give you a much better finish. It is fast (up to 6000 r.p.m.) . . . has an abrasive area of 25 sq. in. . . . and is powerful and vibrationless. Write the factory for further details today.

***Powerful . . . Vibrationless . . . Light-Weight***

**NATIONAL AIR SANDER, INC., Rockford, Ill.**

them dry two or three hours. Then sandpaper lightly with No. 6/0 paper and you are ready to proceed.

### Make Repairs Before Removing Old Finish

It is a good plan to make all necessary repairs before removing the old finish because the remover will penetrate under loose veneers, into veneer blisters and defective joints, etc., and make it almost impossible for glue to adhere to the wood. Also, as far as is practical, it is a good plan to remove doors, drawers, etc., for convenience in removing the old finish.

Sometimes, in emergencies, hot solutions of alkali in water are used on solid (not veneered) woods. One pound of caustic soda (add the caustic to the water, not the water to the caustic!) or trisodium phosphate per gallon of hot water is about right. A little laundry starch in water will thicken it and make it stay up better on vertical surfaces. Put on rubber gloves and apply the solution with a fiber brush. Scrub the treated surface with a stiff brush after about 15 to 30 minutes. Then repeat if necessary. When the old finish is off, wash the surfaces thoroughly with clean water and neutralize with four fluid ounces of muriatic (hydrochloric) acid per gallon of water. After a final rinse, allow the surfaces to dry thoroughly before proceeding.

### Finishing Materials Used by Custom Finishers

The custom finisher uses most of the materials that are used in large plants—the same bleaches, stains, fillers and sealers. When it comes to topcoats, however, he is usually limited to lacquers because of space and drying limitations. Varnishes are so slow in setting and drying that they are likely to pick up dust and specks of dirt; and the commercial urea-alkyd materials require heat for proper curing.

### Drying Room and Spray Equipment

Some custom shops find it practicable to install a force-drying room, even when using lacquers. Lacquers can be rubbed and packed after a force-drying period of two hours at 140° F., as well as urea-alkyd finishes.

Such a "hot-box" need not be large or elaborate. Steam coils and a few properly located fans may be all that are needed to raise the temperature to the proper level, if the room is small and tight. There should be a means of exhausting foul air and bringing in fresh air to prevent an accumulation of solvent and other vapors.

Spraying equipment is a "must" for custom shops. This will include a compressor, an air storage tank, air pipe lines, pressure regulator and air cleaner, spray guns, a pressure tank, and a spray booth. The compressor should be of sufficient capacity to supply the spray guns. The most modern production guns consume 12 to 14-cu. ft. of air per minute. The compressor should deliver that much or more. If the compressor you have will deliver only 8-cu. ft., then you must select a spray gun that uses no more than that much air. Spray equipment manufacturers can help you on this problem. *(To page 76)*

# PRINTEX VARNISH

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**to save time, labor and cost!**

**NOW** you can have, in one product, the important working properties of both a lacquer and a varnish. Printex is the result of long and exacting research at the Reliance laboratories . . . proved in large scale production for more than a year.

Look at these outstanding Printex features. We'll gladly send you additional information without obligation.

- Varnish solids — lacquer speed.
- One coat has build-up of 2 lacquer coats.
- Sets out of dust in 15 minutes.
- Air dries to rub or pack in 16 hours.
- Force dries in 1½ hours at 125°-140° F.
- Can be rubbed as soon as cool.
- Clear, transparent — no blushing or blooming.
- Withstands pressure packing — 2 lbs. to square inch.
- Water and alcohol resistant.
- Sprays easily, smoothly and quickly.
- Does not settle in package.
- Supplied in gloss or dull lusters.

**For additional information address**
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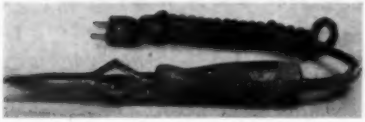

**THORNTON'S Heavy Duty ELECTRIC BURNING KNIFE**

A rugged, long-life knife with self-rest, heavy bronze ventilated blade. 6-foot Underwriter's cord. Knife point heating element furnishes constant even working temperature.

**ORDER ONE**
**EACH.....$5.95**

## Try AMALGASOL

Repairs and rebuilds damaged finishes. Applied with pad. Used with stain where needed. It matches and completely refinishes rubbed through places in the finish.

**Ready for Use.**
**GALLONS.....$8.25** **QUARTS.....$2.75**

## L. M. Thornton Mfg. Co.

*The wood finish authorities since 1914*
**2815—25 EAST 18TH STREET**
**KANSAS CITY 1, MISSOURI**


### Spraying Air Must Be Clean and Dry

Some custom finishers use the small self-contained spraying units. Some of these units do not even have a storage tank, but they are useful and perhaps satisfactory on small operations.

For clean work there must be some means of removing water and oil from the compressed air. The air filter usually does this. The drain cocks on the air filter and the air storage tank should be opened regularly, especially when hot or damp weather prevails.

Small pressure tanks for holding the finishing material are especially useful in custom shops. Cup guns do not hold enough material. Stopping to refill the cup will often require so much time that the entire piece must be gone over again, especially with lacquer. Pressure tanks are versatile. Finishing material may be poured into the tank, or a small container of the material may be set in the tank in such a way that the outlet tube will be under the surface. This makes possible a quick changing of materials practical without cleaning the tank.

Portable sanding and rubbing machines are used in most custom shops. They are useful in many ways and they help to save a lot of time-consuming hand labor. Equipment and materials for repairing damaged surfaces and finishes are on the list of "musts" for every custom shop.

Most custom shops start out small but some of them grow to the point where operations are hampered by lack of adequate space or a poor arrangement of the space.

Areas for building new furniture, for repairing and cleaning old furniture, for upholstering, and for finishing should be laid out in the proper sequence to prevent costly waste motion. A small custom shop is as susceptible to this sort of planning as the largest factory, therefore some sensible planning in the beginning will yield profitable results later.

### Planned Layout for Efficient Operation

With a little thought, the operator of the custom shop can lay out flow lines to prevent waste motion. The necessary equipment can be placed at the proper point on these lines. A few minutes study of each workman's bench will often suggest a rearrangement of tools and working areas which will make his task easier, while at the same time increasing his output.

A small portable table for tools for touching up and making minor repairs will often save countless steps every day. The repair and patching craftsman can move his entire tool kit along with him wherever he is working, thereby avoiding so many trips to his bench.

The custom finisher is primarily a craftsman, and he is usually a good one, too. However, by borrowing a few production ideas from the mass production finishers, he can often increase the output and the quality of his work at the same time.

The proprietor of every custom shop must know his costs too, as he will have to give estimates on a variety of work to be done—large orders as well as small orders.


COMPARE
DURATITE
WITH ANY OTHER FILLER

See why it's better!

See how much faster and easier Duratite fills holes, cracks, dents, gouges *in just one application.* Dries with only 1% shrinkage.

Duratite's *fine textured fill stays in!* Can be cut, sawed, sanded to a fine, smooth surface...waterproof, weatherproof, takes a high finish, and all commonly used stains. You'll prefer Duratite! Complete line of 7 wood colors in 5 convenient size packages.

SEND FOR FREE SAMPLE!

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FOR LARGE CAVITIES FOR SMALL CAVITIES

## Flow Coating Equipment

One of our big farm equipment manufacturing customers has asked us to either design or find some one who designs a paint flo-coating machine—a machine that can be used to flo-coat plows, discs, drags and harrows. Can you be of any help to us by suggesting where he can secure any information on the above subject?—H.C.Co.

Try some of the concerns (advertising in I.F.) who manufacture or install spray equipment, ovens, conveyors, etc.—ED.

## "Vehicle" Article Interesting

We read the article, "The Vehicle" by M. A. Glaser in January issue, with much interest. The author's reference to a vehicle compatible with many different types of materials is of particular interest to us. We would appreciate any information you can give us in regard to this vehicle, name of manufacturer, etc.—A.C.

We are referring your letter to the author, who will write you direct.—ED.

## Lacquer Dispersions

Can you supply us with the names of manufacturers of lacquer dispersions (varied colors) in chip form?—I.L.P.

Try R.B.H. Dispersions, Inc., Bound Brook, N. J.—ED.

## To Coat Hairpins

Having noticed the aid given in your excellent publication, Industrial Finishing, we thought you could help us in our problem. We manufacture hairpins and our finishing is done by hand dipping and baking. This is much too slow and costly. Would the open barrel method mentioned in your latest issue be of any use? Could you give us any details of any method which will speed up production and give a good finish? If you can help us in any way we will indeed be grateful. Congratulations on the good work done through your journal.—T.W.S., South Melbourne, Australia.

You can probably coat these hairpins by tumbling or by dip-whirling. We are referring a copy of your letter to concerns who make and service these two kinds of machines, and they will write you giving details of what they have to offer.—ED.

## Metallic Finishes

We have looked through the current issue of INDUSTRIAL FINISHING magazine and do not find a firm whose advertising seems to indicate they specialize in metallic finishes. If you know of a firm that manufactures or distributes such a product we would like to have you supply us with their name and address at your early convenience.—W. R. Sons (Clay Specialties).

In a letter we are naming some firms that can supply metallic finishes.—ED.

## Rubbing Lacquered Table Tops

With reference to the inquiry under the above title, as published on page 94 of January 1949 issue, we note that none of the answers refer to the new all-wax method of rubbing and finishing furniture. It is made possible by the recent introduction of a new wax rubbing lubricant made by Johnson's Wax.

This wax method of finishing furniture answers all of the problems raised by A. L. Co. Oil spotting, hazing and blooming are eliminated because Johnson's Wax Rubbing Lubricant contains no oil. It combines the rubbing and wax finishing steps in one operation, thus eliminating the problems which arise when both a rubbing lubricant and a rubbing compound are used. It cuts out completely the oil wiping step; rubs more easily than oils; frequently makes possible the use of a finer grade sandpaper in securing comparable results; gives a rich, dry wax finish to wood.—S.C. Johnson & Son, Inc.

## Electrostatic Spraying

I am inquiring about the Ransburg process for electro-static spraying of paints. Inasmuch as the process is a patented one, I wonder if you could refer me to any organizations in the New York area licensed to use this method of spraying?—C.C.

One of our paint customers has made an inquiry about electro-static paint spraying technique. They especially mention

**Remarkable scratch resistance!**

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## *The superior finish for all wood products*

PYRO CELLO-FILM is so tough that 8 lbs. of standard divided carborundum are required to wear through the finish. This means extra protection for your product while in transit, on display and after it reaches the home. PYRO CELLO-FILM enhances the beauty of fine woods. It also affords exceptional resistance to water, heat, fats, greases, saline solutions, alcohol and acids.

***FREE OFFER!*** We will finish one of your wood products with PYRO CELLO-FILM — without cost. Then you can see for yourself how wonderfully it solves your finishing problems. Write for complete information today!

PYRO CELLO-FILM *is an exclusive development of the*

SUPERIORITY UNIFORMITY PYRO-CELLO-FILM

AMERICAN VARNISH COMPANY EST. 1883

1128 N. North Branch Street, Chicago 22, Illinois

MANUFACTURERS OF VARNISHES — PAINTS — STAINS — LACQUERS — SYNTHETIC ENAMELS — CELLO FILM — SOLDERING FLUX AND SPECIAL COATINGS.

the Ransburg type. Would it be possible for you to give us the name and address of the manufacturer of this equipment? Also, the name of manufacturers who can supply a similar product?—B.W.Co.

We are referring your inquiry to Ransburg Electro-Coating Corp., 1234 Barth Ave., Indianapolis 7, Ind.—ED.

## Fogless Glass

In looking through the January 1949 issue of INDUSTRIAL FINISHING I noticed the article under "Random Comment" concerning a new liquid glass cleaner which leaves an invisible but fog-resistant film after application.

Can you tell me if this cleaner can be purchased locally (Louisville, Ky.)? If not, where it can be bought?—O.M.Co.

Author of "Random Comment" identifies the concern as Sax Kleen Co., 11 Bleecker St., Albany 2, N. Y.

## No British "Scrummage" It's "Glaze" or "Scrumble"

On pages 90 and 92 of INDUSTRIAL FINISHING for December 1948, I notice a reference by "O.B." to a "scrummage" coat, a term which he says has been used in old British books on wood finishing. Your correspondent may have seen such a word in a British book, but I would suggest that the book in question dealt with football rather than wood finishing; or it may have been a pre-war description of a bargain sale.

Seriously, neither I nor any of my colleagues have ever heard such a word used to describe what we variously call "scrumbling", "wiping", "glazing", "glazing and wiping", "shading", "antique finish" or "old ivory" (the last applied when the colors used match old ivory). The material used for what "O.B." calls the "wiper" coat is generally referred to as "glaze" or "scumble".

The term "scumbling" appears originally to have been used by artists to describe a thin, transparent coat applied to parts of an oil-painting with the object of lowering the tone of a color or increasing its depth. As used by the decorator in Britain, it is often mistakenly called "scrumbling" which seems to be the basis of "scrummage". But, in the cause of good Anglo-American relations, don't blame us for it!—D. W. Marshall, Associate of the Institute of British Decorators, London, England.

## Finishes for Use on Glass

We wish to apply a finish on glass items and wonder if you can advise us as to the best possible air-drying spray material to use to obtain a durable job? We understand that air-drying materials are available for this kind of work, but we do not know the sources for them.

We also understand there are materials on the market that will give practically ceramic results, with a low baking heat. We would appreciate it very much if you could suggest manufacturers whom we could contact regarding both of these materials.—R. Lamp Co.

In a letter we are naming a few concerns, one or more of which may be in position to supply what you want.—ED.

## Wrinkle Finish Article Wanted

I am interested in obtaining a set of tear sheets or a reprint of the article entitled, "Selection and Application of Wrinkle Finishes", by G. A. Conrad. It appeared in the October issue of INDUSTRIAL FINISHING Magazine. This article was listed in the American Society of Metals Review of Current Metal Literature, December 1948. If such is available at this time, I would appreciate receiving it.—R.C.M.

Copy of magazine sent.—ED.

## Lincoln-Mercury Article

We are very much interested in the article appearing on pages 40 to 52 of January 1949 issue entitled, "Lincoln-Mercury Finishing in California Plant", since the majority of the equipment shown in the photographs was installed by us less than a year ago. I wonder if you would be kind enough to send us these photographs and give us permission for their use in our advertising?—Peters-Dalton, Inc.

Photographs are on the way, and you may use them as you wish.—ED.

## Tumbling Wooden Parts

We would appreciate it if you could give us some information about the most efficient method of finishing small wooden parts for games. We have a small tumbler, but we have not the necessary knowledge to use it efficiently. We would like to get a smooth surface, and the pieces preferably dyed and lacquered or waxed.—Askja, Ltd. (Reykjavik, Iceland).

In a letter we are sending you a reprint of an article published on this subject.—ED.

## Paint-Can Cover to Hold Brush?

We have a request from one of our customers as to a source of supply on a container or a top for a container which will contain a brush, or one which will

# ELIMINATE

## Your Finishing Problems

*with*

# Japco

## QUALITY INDUSTRIAL FINISHES

| | |
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| PROTECTIVE COATINGS | MACHINERY ENAMELS |
| BAKING JAPANS | COATING OILS |
| DRUM ENAMELS | INHIBITIVE PAINTS |
| ALUMINUM PAINTS | ASPHALTUMS |
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| MARKING PAINTS | ACID PROOF PAINTS |

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**"JAPCO LACQUER REPLACEMENT ENAMELS"**

*(An entirely new industrial paint finish)*

WRITE FOR ADDITIONAL INFORMATION — SAMPLES UPON REQUEST

## JAMESTOWN PAINT & VARNISH CO.

JAMESTOWN, MERCER CO., PENNSYLVANIA

*Industrial Finishes Since 1885*

make it easy to put a brush in through the top on paint which is fairly fast drying and which is used intermittently in the marking of small objects as they pass through the shop.

Our customer's objection to the conventional can is that the material skins over while in use and involves a lot of time in cleaning up skins and things of that type.

Under the circumstances, he wonders if anyone has worked out a device wherein the brush can be easily removed from the can, a small mark put on the surface with that brush and then the brush put back in the can to be kept soft until needed again, and at the same time have some device that closes the top of the can. It might even be possible to have a large washer or large piece of sheet metal or other material actually attached to the handle of the brush so that this could be accomplished.

If any of your readers have any advice on this we would be most happy to receive it.—Thompson & Co., Oakmont, Penna.

---

Anyone have a suggestion or idea on this?—ED.

## Fogless Glass

We would like to get some information as to electric lamp drying of enamels, and understand that possibly you could put us in touch with someone familiar with this type of work, or could you tell us of any books or pamphlets dealing with the subject?—S-M. Co.

---

Look in January 1949 issue of this magazine, pages 20, 21 and 125, and write to the firms whose advertising you see there.—ED.

## Collapsible Tube Coating; Pencil Finishing

We are interested in obtaining information and prices on toothpaste tube coating machines. We would appreciate your sending us the names and addresses of manufacturers of these machines, together with references to any articles or literature which you have published or know of, on the subject.

Also, please send us any information you have on machines to coat wooden pencils. We understand there is a process whereby the wooden pencil is extruded through a squeegee and the paint is squeegeed on to them. Please send us the names of manufacturers of these machines, together with a list of any articles or descriptions which you know of on the process.—P.G.Co.

---

In a letter we are naming some of the lithograph machinery companies to whom you might write.

In reference to machines for coating wooden lead pencils, we understand that all of these are custom built under the supervision of the pencil manufacturer who uses them. The only information we have to send along this line is a little item published in our "Questions and Answers" section of March 1948 issue of INDUSTRIAL FINISHING Magazine.—ED.

## Young Bros. Promotes Two Men to Important Positions

James D. Russell has been advanced to Sales Manager, and Leonard R. Shorek to Chief Engineer, of Young Brothers Co., Detroit, Mich. Both men have been associated with the company in other capacities for several years.

Young Brothers Co. is one of the nation's leading manufacturers of industrial ovens for paint and varnish baking, lithographing, metal decorating, chemical drying, textile, rubber and other processing.

## Two Glidden Men Promoted

One of the outstanding figures in the paint and varnish industry, Z. G. Peck, has been appointed Regional Director of the Glidden Company's Pacific Coast Paint and Varnish Division.

Mr. Peck has served Glidden in various important capacities since 1920 and has been Regional Director of the company's Adams & Elting Division in Chicago for the past 16 years. He is a native Californian and has spent many years in the paint and varnish business on the West Coast.

Z. G. Peck and Herman F. Winger

He succeeds Earl L. Ehrke, who has been named Supervisor of Industrial Sales for the Pacific Coast. Mr. Ehrke, a graduate chemist, has served Glidden in Cleveland and San Francisco since 1922.

Herman F. Winger, who became associated with Glidden in 1933, has been appointed Acting Regional Director of the Adams & Elting Division, replacing Mr. Peck. Mr. Winger has had wide experience in that division, both as a salesman and as Division Sales Manager.

# RELIABLE VISCOLATOR

Patented & Patents Pending

## SYNTHETIC & LACQUER HEATER

For the application of high solids lacquer and synthetics at elevated temperatures

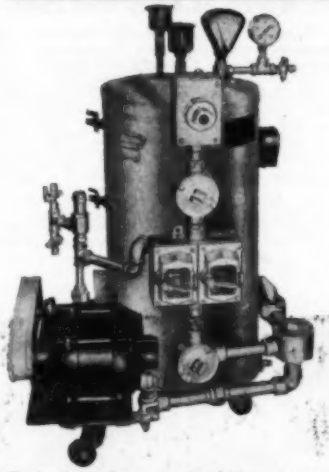


Illustration shows recirculating type Model "MAR" with heated atomization air and electric motor. Also operates with air motors—does not require pressure tank.

Approved by N.Y.C. Board of Standards & Appeals.

VISCOLATORS are also available in non-circulating types and in other models utilizing steam to fit in with existing recirculating systems. There is a standard model to meet any requirement you may have.

**EXPLOSION PROOF**

INSIDE AS WELL AS OUTSIDE

Delivered as a complete packaged unit filled with heat transfer liquid. Ready to operate—just plug in—connect hose—and start spraying.

INCREASES . . . Production . . . Performance . . . Paint Mileage . . . Gloss and Quality.

DECREASES—Labor and Operating Costs . . . Spraying Strokes . . . Overspray . . . Rejections and Current Consumption.

Tried and proven in production use by many manufacturers in different industries.

Highly recommended by leading manufacturers of industrial finishes.

Write for descriptive bulletin 102, just off press.

**RELIABLE PRODUCTS MFG. CO., INC.**

123 DeKALB AVE. BROOKLYN 1, N. Y.

## Advance Paint Co. Moves Into New 2-Million Dollar Plant

The new, modern plant of the Advance Paint Co., 601 Kentucky Ave., Indianapolis, Ind., has been recently placed into production. This company specializes in industrial coatings and finishes including enamels, lacquers, varnishes, stains, fillers, etc. The firm also produces interior and exterior house paints which are distributed through its subsidiary, Advance Paint Products, Inc.

This plant consists of a main building which is a 4-story and basement plant of 125,000 sq. ft., a new 2-story varnish plant of 10,000 sq. ft. and two raw material warehouses. New equipment now in use in this company's production has resulted in a greatly increased output.

Everything is handled mechanically. Pumps by the dozens are used to transfer materials to mixing and blending tanks through meters or weigh tanks.

Mile upon mile of piping is used as well as hundreds of valves to connect these pumps for fast and efficient handling of liquids. These liquids range from solvents and thinners to viscous lacquers, process oils, varnish, paints, etc. This process has eliminated a great deal of non-productive labor and at the same time has speeded production 100%.

A large, modern, laboratory maintains control of all materials used in production. All initial formulations are made up and tested in this laboratory. In addition, departmental laboratories control every batch produced in their departments. Every batch is sampled, tested and compared with the initial formulation before shipment.

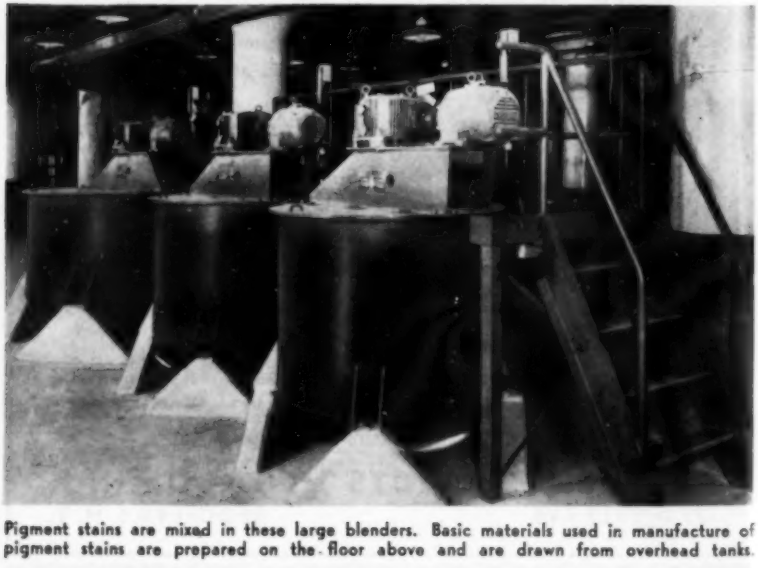
---

## Optimus Appoints Melville Morris as Exec. Vice Pres.

Optimus Equipment Co., Matawan, N.J. manufacturer of vapor degreasers, metal parts washers, pickling and drying equipment, announces the appointment of Melville Morris as Executive Vice President and member of the Board of Directors.

This appointment follows the recent merger of the Midwestern Mfg. Co. of New York with the Optimus Equipment Co., a subsidiary of the Hanson-Van Winkle-Munning Co.

In line with the enlarged scope of operations, Mr. Morris announces the appointment of Mr. A. Otto Millen as Middlewest District Supervisor and the L. G. Evans Co. as representatives for Illinois, Indiana and Wisconsin.



Pigment stains are mixed in these large blenders. Basic materials used in manufacture of pigment stains are prepared on the floor above and are drawn from overhead tanks.

## Random Comment on the Industrial Scene

*(Continued from page 6)*

people were 87½% below par. Broken down into areas, the Pacific Coast leads with an efficiency quotient of 73.7%, which is over the national average. The East is next with 71.9%; the South, 70.1%, and the Middle West with a low of 69.9%. An analysis of the results of this survey show many other tenets of salesmanship evaluated in percentages. The figures are enlightening but disturbing.

This condition obviously is an outgrowth of scarcities and a sellers market. It is a high time that retail management realize that times as well as conditions have changed; time to instruct the younger salespeople in at least the rudiments of selling. It might also be well, while they are about it, to get some of the older ones out of several bad habits through a refresher course.

* * *

**A New Building Material** called "Durisol" has been developed. This new low-cost material is composed of mineralied wood chips combined with Portland cement and molded under pressure into slabs and blocks. It is beyond the experimental stage and is in actual production. The combination is fire resistant.

* * *

**Paper From Straw.** A new process for making paper from wheat straw has been developed. It is said that cost reductions of 40% to 60% can be effected over paper made from wood pulp. The success of this new method lies in the chemical used to separate the fibers of the wheat straw, and at the same time preserve the cellular structure of the individual fibers. Wheat straw was selected because of its abundance.

**Oak Furniture** from California made an appearance recently in a New York store. The finish made it outstanding. One called harewood is a medium taupe shade; another a bright green; then a rose color and a black —all with white pigments rubbed into the porous grain of the wood.

It has been many years since oak has been really popular as a furniture wood. Who knows but that the finishers art may be instrumental in reviving the popularity of the sturdy oak in good furniture.

* * *

**Clear Plastic** resists heat distortion to 210° F. A new thermoplastic molding material is now available. This special polystyrene can withstand immersion into boiling water for intervals without appreciable softening or loss of clarity. This plastic is workable in standard injection molding machines if the temperature is stepped up by about 50° F. over ordinary plastic materials.

---

### *Richard Mee to Represent Midland I. F. Co.*

The Midland Industrial Finishes Co., Waukegan, Ill., announces the appointment of Mr. Richard Mee of St. Paul, Minn., to represent the company in the Minnesota territory. Mr. Mee's excellent background of 18 years in the field of industrial finishes makes him particularly well qualified for this position. This appointment is in line with the company's program in augmenting its sales force with highly trained technical men.

Richard Mee, who represents Midland Industrial Finishes in Minnesota.

## To Keep Down Cost of Finishing

How can we check our mounting finishing costs?—Furniture Co.

This question can be answered in a number of ways. Sometimes, in finishing furniture, whole operations can be eliminated through the use of colored sealers, or by using a combination stain sealer coat. There are stains that can be used for dip staining and which require little or no wiping, and they will dry without runs or streaks.

Time is an important element in cutting finishing costs. A sprayer, either on piece work or day work, is paid for his skill and speed as a sprayer. Don't make the mistake of making a furniture mover out of him. If he sprays an article and then has to pick it up and walk 20 or 30-ft. to place it in a rack or drying room, you are paying a high price for menial work that could be accomplished by a movable rack, a conveyor or unskilled labor.

Often too much time is wasted between finishing operations. There are stains that will air dry sufficiently in 30 to 45 minutes, and lacquers that will air dry in even less time.

Graining and special effect finishing need no longer be done by laborious and costly hand methods. Mechanical and power operated graining machines can put any type of grain on both flat and curved surfaces of wood, metal or glass, with a minimum of time and effort. The introduction of synthetic rubber graining rollers has eliminated the costly use and periodic necessity of replacing the old gelatin type of rollers.

Electric sanders, rubbing and buffing machines, in sizes for every type of job, can eliminate much of the work heretofore done by hand.—W. B.

## Remove Stencil Marks from Wood Barrels

In the course of my travels I ran across a problem which you may be able to help me solve. I have a certain cooperage account which wants to remove ink stenciling and markings from wood stave barrels, preferably by using some sort of ink eradicator or bleach. If you happen to have this information, or know of some manufacturer making such a product, I would appreciate your help.—N. J.

There are several harmless chemical blendings which will draw the the pigments to the surface. The vehicle used in the stencil ink will determine the correct material or blending to use to remove the stenciled markings without damaging hands of workmen.

We suggest you forward a stenciled stave to our attention; if a raw material will do the work, we can forward the name of the manufacturer or, if a blending is necessary, we can probably take care of the mixing for your account.—Crystal Laboratories.

Stencil inks usually have some carbon black in their makeup. No chemical agent will dissolve or decolorize carbon black. The only way to remove

# Sealers

## for a tougher, more adhesive finish

When Stille-Young expert finishing technicians set out to produce a lacquer sealer, they have in mind two primary objectives—durability and adhesion.

Without sacrificing either of these qualities, the sealer is formulated to assure quick drying and easy sanding. Result: A sealer that not only improves the quality of the finish but lowers the cost of finishing the product.

If the sealer you now use falls short on toughness, adhesion, drying or sanding qualities, it will pay you to get in touch with Stille-Young.

*The quality line manufactured by Stille-Young*

S-Y TRADE MARK

STAINS · FILLERS · SEALERS · LACQUERS · ENAMELS · PAINTS

**THE STILLE-YOUNG CORPORATION**

**Chicago 14**

such a stencil ink is by mechanical means.

Bleaches and ink eradicators will work on certain all-dye types of stencil inks. Some dyes can be removed by bleaches; others can not. You might try ordinary ink eradicator, laundry bleach, concentrated hydrogen peroxide (30 volume), or any other commercial bleach. One of the effective bleaches is potassium permanganate—about 4-oz. to a gallon of water. Treat the ink with this solution and then follow with a solution of 8-oz. of sodium bisulfite per gallon of water.

If the barrel staves or barrels are all marked with the same kind of ink which will respond to a chemical bleach, then your problem is solved; but I believe the most satisfactory solution will be mechanical removal of some sort—cutting or grinding the wood.—ROLLIN H. WAMPLER.

## To Prevent A Cloudy Spotty Finish

We are getting cloudy and spotty finishes on our product, often with an orange peel effect. How can we eliminate this condition?—T.C.

A cloudy or spotty finish may be caused from any one or more of several conditions. An accumulation of moisture in the compressed air system is one of the most important. An air separator alone will not cure this condition. The hose and pipes must be periodically blown out and checked, as too much moisture in pipe and hose lines will cloud and spot an otherwise clear finish. At the same time, spray guns must be cleaned after each job.

Some finishers make the mistake of using a quality lacquer and an inferior thinner, consequently the material is not properly broken up when it is sprayed on the product. This condition will cause an orange peel finish.

Air pressure must be checked and properly regulated for the particular kind of finishing job required. The use of too much air pressure can be just as harmful to a finish as a very low air pressure.

The finishing room must be separated from other phases of manufacture, such as sanding or machining, as flying particles, no matter how minute, will settle on freshly sprayed products and spoil an otherwise good finish.—W. B. LEIL.

## *"Michigan Oven Co." Formed in Detroit*

Announcement is made of the formation of the Michigan Oven Co., incorporated under the laws of the State of Michigan for the purpose of designing, fabricating and distributing industrial ovens of all types for operating temperatures to 1100° F.

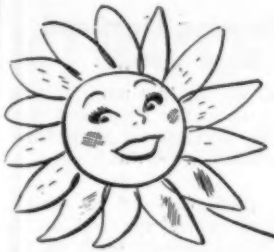
Officers of the Michigan Oven Co., who for many years have been prominent in the industrial oven field as former employees of Young Brothers Co., include R. J. Ruff, President; E. C. Herrington, Vice President & Treasurer, and Paul A. Meyer, Secretary. Sales representatives already appointed for the principal centers throughout the United States have a cumulative service of over 150 years in the development and distribution of industrial ovens.

Business will be conducted from the Michigan Oven Co.'s home office at 4544 Grand River Ave., Detroit 8, Mich. Complete design, fabrication, erection and service facilities are available.

## *Florida Weather Testing by New York Laboratory*

An out-of-doors testing station in Miami, Florida, provides the maximum of exposure to the sun's rays for weather testing of materials and products. Arrangements have been made by Sam Tour & Co., Inc., 44 Trinity Place, New York 6, N. Y. for such testing service.

Interpretation of reports on all weather tests are made by the engineering staff in the laboratories in New York. Materials and products tested, vary widely. Amongst them are paints, enamels, surface coatings of metals, plastic materials.



**BE FRESH!**
**STAY FRESH!**

***for Dust Protection***
***wear a DUPOR No. 4***

The ideal twin filter respirator to keep sawdust, silica dust, grinding compounds out of nose—throat—lungs! A favorite protection for paint spray, fumes, gases, vapors, etc. Rubber face mask provides airtight fit, controlled breathing, panorama view, no blind spots.

COVER'S GAS-TIGHT FOG-PROOF GOGGLES **$1.65**

*Sample sent $1.65 pp*

**H. S. COVER, South Bend, Ind.**

**Mac's FASHION BLEACH**

**Will Bleach All Kinds of Wood**

MAC'S FAMOUS FASHION BLEACH is now available for bleaching all kinds of wood including mahogany, the most difficult wood to bleach. It dries overnight to a desired bleached effect ready for sanding and for the regular finishing schedule. It can be applied by spray using a glass container.

**Write for Samples and Descriptive Folder**

***The Lawrence-McFadden Co.***

**Headquarters for Fine Finishes Since 1875**

**7430 STATE ROAD** **PHILADELPHIA 36, PA.**

## How to Avoid Rough Finish on Furniture

How can we eliminate rough finishes on furniture?—J.M.C.

This, of course, depends a great deal on the preparation (sanding) of the product before it even reaches the finishing room. If the surfaces are rough when they come into the finishing room, no amount of finishing labor or material will produce satisfactory results. Wood surfaces must be sanded smooth before any finishing begins.

All open grain wood must be properly filled in the finishing process. Too often a finisher will use a light sealer coat and then, in the sanding process, he will rub all of the sealer off. When the top coat is applied, the material, having no solid base on which to form, will be absorbed into the wood, much the same as ink enters a blotter, and the result will be a rough unfinished appearance.

The use of non-grain-raising stains will also help to save labor and give a better and smoother finish to your product.—B.W.L.

## *1949 Sales Convention of Schorn Paint Mfg. Co.*

Thirty three salesmen of the Schorn Paint Mfg. Co.—a Division of American-Marietta Co.—Seattle, Wash., held their annual 3-day sales convention in Seattle on January 28, 29 and 30.

Mr. D. E. Elchelberger, General Manager of Schorn, and Vice President of American-Marietta Co., welcomed the sales group to this 3-day convention. He outlined to them the new efficient equipment that was recently installed by Schorn, and plant expansion that would increase production of Schorn "Top-Quality" paint.

Mr. Charles A. Conrad, Assistant Director of Advertising from the home office of American-Marietta Co., presented the advertising plans for Schorn in 1949. American-Marietta and Schorn believe that the paint business in 1949 will be good. However, it will necessitate greater sales and promotional efforts.

## Uniforming Light and Dark Areas

How can we obtain a more uniform finish and eliminate light and dark areas in the finishing of wood furniture and cabinets?—J.Co.

Proper utilization of a shading lacquer just before you put on the top coat will eliminate much of this sort of trouble. Where there are light and dark spots in the texture of the wood you can equalize or uniform them by the skillful spraying of a shading lacquer which is made by adding a small amount of walnut or mahogany (as the case may be) coloring to your clear lacquer. In this way you can cover up blemishes that would otherwise show through a clear lacquer.—B. L. WILLIAMS.

## *Ray S. Larsen, Sales Manager for Despatch Oven Co.*

Appointment of Ray S. Larsen as sales manager of Despatch Oven Co., Minneapolis, is announced. Mr. Larsen joined Despatch in 1937 as a sales engineer and served in that capacity until he entered military service in 1942. After two years as an air corps pilot, Mr. Larsen returned to the company to take care of standard costs and methods engineering. In his new position, Mr. Larsen will be in charge of sales of such major products as finishing systems, washers, spray booths, foundry ovens and industrial heat treating equipment.

Ray S. Larsen has been appointed Sales Manager for Despatch at Minneapolis, Minn.

# KIRCO BLACK BAKING ENAMEL

Is a beautiful, smooth, gleaming jet black effecting a magnificient contrast with the stainless steel base of the Soda King Syphon; the leader in its field.

The Kidde Mfg. Co. of Bloomfield, N. J., are also well known manufacturers of whip cream dispensers and carbon dioxide cartridges for all purposes. The Chargers shown below are finished in attractive grey or green lacquer.

Leading manufacturers in many different industries have standardized their finishing production with KIRCO MODERN COATINGS.

You are invited to submit your production finishing problem to the Kirco Laboratory. A tailor made finish will be submitted to meet your specific requirements.

KIRCO Modern Coatings are delivering trouble-free performance to prominent manufacturers of metal, wood, plastic and glass products.

KIRCO MODERN COATINGS

Kirker CHEMICAL COMPANY

ONE EAST ELEVENTH STREET • PATERSON 4, NEW JERSEY

## Figure Material Costs by Weight Measures

*By J. A. RUCKMAN*

THE MOST COMMON practice for determining the use of liquid finishing materials is by liquid measure. This is satisfactory when comparatively large quantities are used and the gauging is accurate.

However, a more accurate method is to check the quantity of materials used, by weight. This is true regardless of the quantity used. First, the empty container is weighed. Then the liquid is carefully measured and placed in the container, and both are weighed. Deducting the weight of the container from gross weight determines a definite weight of the liquid in the container. For example, suppose the weight of fluid in the container is 25-lbs. 2-oz., and the liquid measure content is three gallons. The weight per gallon is 8-lbs. 6-oz., or 8.375-lbs. Suppose the cost of liquid is $1.84 per gallon. The following formula shows cost per pound:

$1.84 divided by 8.375 equals $.2197 plus, or 21.97 cents per pound; 10.985 cents per half pound; 5.4925 cents per quarter pound; and 1.373 cents per ounce.

This method is just as accurate in the case of drums as it is in smaller quantities, provided the weight of the empty drum is known. Usually any number of drums from any given source are alike and their weights are about the same—near enough so that any slight discrepancy does not materially affect the net weight of liquid contents; therefore, a net weight for all drums can be safely established.

The practice of measuring the liquid used from a drum when the drum is in a rolling position, as is usually the case, is definitely inaccurate since the liquid level area changes with each fraction of an inch up or down.

In the case of fillers or other finishing materials involving the use of liquids and solids, the weights and cost of both ingredients must be used to establish the cost per pound, thus:

| | | |
|---|---|---|
| 42-lbs. silax | @ .14 | $ 5.88 |
| 24-lbs. naphtha | (3 gals. @ .21) | .63 |
| 66-lbs. | (Total) | $ 6.51 |

$6.51 divided by 66 is $.09864 per lb.

With basic costs established in accordance with the instructions in the preceding paragraphs, the cost of coverage over one or more productive units of the same kind can be readily computed with accuracy. It is recommended that coverage be spread over as many units of a kind as is convenient, as this will establish the greatest accuracy.

The method outlined is also useful in checking coverages by two or more operators. Rarely do any two persons spray exactly alike and such a check will establish any superiority as between two or more workmen. It is also useful in checking operations under varying climatic and atmospheric conditions. It becomes a good barometer by which efficiency and economy can be accurately gauged.

---

## *A. F. Losaw, Jr. Joins Sales Staff of Tenax Finishing Products Co.*

The Tenax Finishing Products Co., 420 Adams St., Newark 5, N. J., announces the appointment of Arthur F. Losaw, Jr., to its sales staff, covering the New York and New Jersey metropolitan area.

Mr. Losaw, known in the trade as "Bud" was formerly president of a paint company in Sommerville, N. J. He has been connected with the paint industry since 1930.

Tenax also announces the development of a new light gray primer known as "Grip-Tite," which dries in ten minutes for topcoating with enamels or lacquers. It causes a perfect bond between steel or aluminum and the finish coat. It is extremely flexible and stands up even after a 300-hour salt spray test. It may be sprayed or roller coated.

# Pearl Essence

By William E. Decker
*Technical Director*
*Technical Specialties Co.*

Photograph, courtesy of Koppers Co.

THE PURPOSE of this article is to direct attention to the need for clarification and standardization of the terms used in connection with the preparation and application of Pearl Essence decorative effects.

The term "Pearl Essence" was originally applied to the silvery substance collected by scrubbing and washing the scales, swim bladders and skins of certain fishes. This silvery slime or paste was transferred to one kind or another of lacquer and sold in the form of a concentrated paste for subsequent dilution in clear lacquer. In this latter form it was applied to the surfaces either by a dipping or spraying process.

This procedure is carried on today and the product is generally known as natural "Pearl Essence" to distinguish it from the several artificial and so-called synthetic varieties. It is difficult to justify the use of the term "synthetic" since the "natural" product has been shown to be really a mixture of many compounds.

## Natural and Synthetic Pearl Essence

Chemical analysis of different samples of natural Pearl Essence shows wide variations. There is one compound, however, that is common to all of them. This is crystalline guanine. Apparently for this reason several authors indicate that Pearl Essence is guanine.

The error of this is established, at least in the mind of this writer, by the fact that the guanine recovered from natural essence and purified and dispersed in lacquer does not produce the pearly luster characteristic of the mixture known

as natural Pearl Essence. Some of the artificial preparations do produce this effect to varying degree.

Analysis of some of these products shows them to consist chiefly of a dispersion of mercurous chloride, lead phosphate, lead formate or barium thiosulphate. So far as the writer knows, there is only one artificial product that contains any compound related to guanine.

### Pearl Essence Really An Optical Effect

It is our opinion that the term "Pearl Essence" should not be used to describe a specific product, but rather an optical effect. This effect is probably that of light interference and refraction caused by the orientation of translucent crystals, resulting in the production of a pearly luster. In view of the demand industrially for such effects in surface coating decoration and for incorporation in various plastics, it is quite possible that a variety of methods may be developed for the production of "Pearly Luster". It certainly is not desirable that they all be called "Pearl Essence".

To further emphasize the need for clarification of the use of the term, "Pearl Essence," a few definitions taken from standard reference works are given here. This list could easily have been extended to ten times its length and the contradictions would have prevailed throughout.

1) "Pearl Essence—A pasty preperation of fish scales (guanine) which is chemically treated and incorporated into cellulose derivative lacquers and plastics."

2) "Pearl Essence—A pasty consistency solution of fish scales (guanine) which is chemically treated and incorporated into an amyl acetate — nitrocellulose solution."

3) "Pearl Essence — A product obtained from fish scales, e.g. European minnow or herring, used to obtained a highly lustrous coating; as on imitation pearls."

The first two of these definitions (typical of many more not cited for lack of space here) certainly convey the impression that Pearl Essence is some kind of mixture of ground fish scales, and also that the terms "fish scales" and "guanine" are synonymous. Both implications are entirely wrong.

#### References

1) Simonds and Ellis — Handbook of Plastics, D. Van Nostrand, 1943, glossary p. 967.
2) Ray C. Martin—Lacquer and Synthetic Enamel Finishes, D. Van Nostrand, 1940, glossary p. 466.
3) Julius Grant—Hackh's Chemical Dictionary, The Blakiston Co., 1944, p. 620.

## *Pacific Coast Enamelers Hear "Safe-Transit" Progress*

A detailed explanation of the organization and progress-to-date of the Porcelain Enamel Institute's newly-inaugurated "safe-transit" program highlighted a recent address by PEI Managing Director, Edward Mackasek, before the Pacific Coast Enamelers Club, Rodger Young Auditorium, Los Angeles. Begun less than a year ago for the purpose of reducing in-transit damage to finished appliances and allied metal products, the PEI program has since received industry-wide recognition, and the enthusiastic endorsement of leading manufacturing and transportation associations.

In addition to the "safe-transit" program, Mr. Mackasek also discussed other Institute activities including the annual Forum and Market Development Program. The new PEI Adherence Meter, developed through the Institute's Fellowship at the National Bureau of Standards, was explained and demonstrated.

Dr. A. I. Andrews, head of the Department of Ceramic Engineering at the University of Illinois was also a guest at the meeting and spoke briefly.

NEW PERIOD
Production Finishes
BAKING ENAMELS
LACQUERS SHELLAC
ENAMELS FILLERS
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PRIMERS STAINS
SYNTHETICS VARNISHES
Don't Trim Sales with Inferior Quality
Improve your product with better design and use modern fast production methods to give you the lowest possible cost. This is the time tested formula for stimulating sales. Utility, performance and appearance are the three keys to increased consumer acceptance.
NEW PERIOD products can help you get outstanding appearance with a superior quality finish that will meet your cost schedule. Avoid the pitfall of cutting costs with inferior quality which returns tenfold to plague you.
Many manufacturers in many different fields have standardized their finishing production with NEW PERIOD quality finishes. Perhaps we can be of service to you too. Submit your finishing problems to us, with no obligation, of course.
MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES.
NEW PERIOD
Production Finishes
ESTABLISHED 1917
NEW YORK WOODFINISHERS' Supply Co.
109 IRELAY STREET BROOKLYN, N. Y.

## Non-Inflammable Tac Rags Always Soft and Tacky

After extensive research the Detro Mfg. & Sales Co., Inc., of Culver City, Calif., has developed a revolutionary improvement in tack rags. Although the company's Detroit Handy "Tac" Rags have been of excellent quality for the past 14 years, the firm was not entirely satisfied.

Realizing the ever present fire hazards in a finishing room and wishing to help improve this condition, the concern developed a tack rag that is non-inflammable, in addition to its quality of always remaining soft and tacky; will never dry hard or stiff.

Detro Tac rags being used in finishing room.

The concern states that its new product has been tried out successfully in some of the leading industrial plants of the country, and that shop foremen are entirely satisfied that its claims are not overdrawn.

In order to produce this improved "Tac" rag, at no additional cost to the user, the Detro Mfg. & Sales Co., Inc., recently erected a new, modern plant equipped with automatic machinery of the company's own design. Patents are pending on the product, the manufacturing process and the machinery used to make it.

---

## Improved Aluminum Finish

Special Chemicals Corp., 30 Irving Place, New York, N. Y., announces a new improved coating called Spekaluminite. It can be applied by dipping or spraying, and then should be baked.

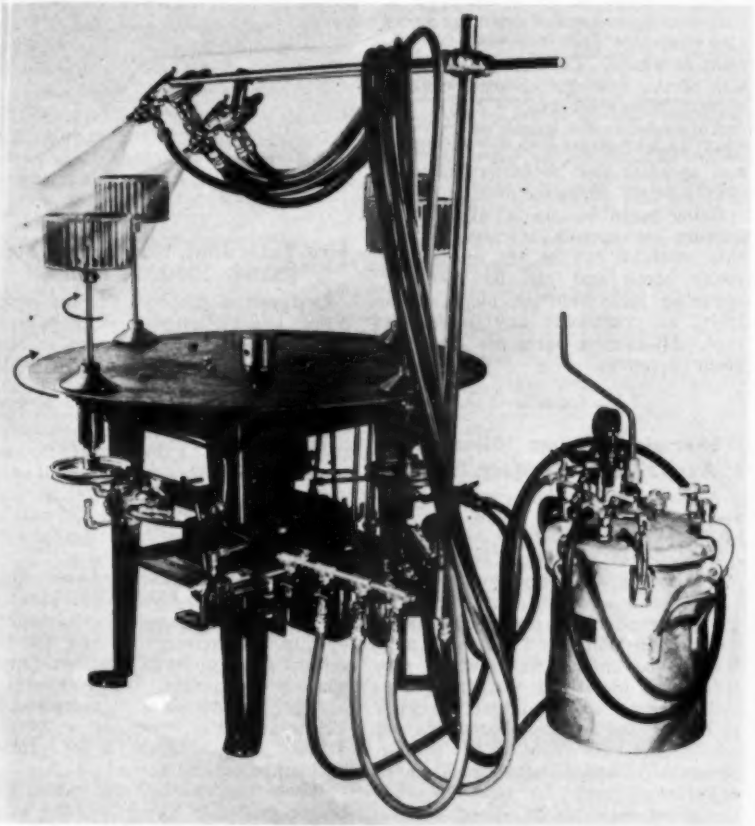
Spekaluminite adheres perfectly to all metals and plastics. It has great rust and tarnish resistance and is guaranteed not to peel or flake. The coating will air dry dust free in five minutes. One spray coat of this bright hard finish withstands salt spray on cold-rolled steel for more than 200 hours.

The manufacturer claims that Spekaluminite produces a beautiful protective and decorative finish that has the luster and sheen of bright cadmium, plus great resistance. It has a temperature resistance of over 700° F., and laboratory tests have shown no appreciable change in color, flexibility or durability at a temperature of 1000° F.

## Portable Automatic Spraying Machines

A fully automatic portable spraying machine is announced by J. Holland & Sons, Inc., 274 S. 9th St., Brooklyn, N.Y. It is activated solely by air pressure. Only one operator is needed to load and remove finished and unfinished work.

When in operation, the objects to be finished are placed on top of spindles on a turntable. The turntable automatically indexes and carries the object to the spraying position directly under preset spray guns which are suspended from the spray gun post. At this point an air motor is engaged which rotates the spin-



Automatic-pneumatic spraying machine in operation, spraying fan rotors. Direction of rotation of turntable and spindle are shown by arrows. Turntable is 36-in. in diameter.

dles, thus revolving the object to be sprayed. Then the spray guns are automatically opened and spray for the desired length of time. The gun shuts off and the turntable starts to index again. This disengages the air motor, carries the finished piece to be unloaded and brings the next piece up to be sprayed. Then the cycle is repeated.

Any number of spray guns up to four may be suspended from the spray gun post and pre-positioned for efficient coverage. The sturdy construction of this machine assures accurate uniform film thickness.

Adjustments for length of spraying time, speed of rotation of turntable and spindles can be easily made by simple screw adjustment.

Being portable, run by air and requiring no special exhaust system, this machine can be set up at any spray booth and can be used for spraying any diameter piece up to 23-in. at practically any production rate. All moving parts are protected from overspray.

---

## Sherwin-Williams "Dimenso" Available as Lacquer Finish

A new lacquer that gives a hammered finish in two colors, applied in one operation, is now available for use in product finishing, The Sherwin-Williams Co., Cleveland, announces.

Marketed as "Lacquer Dimenso", the new product is a companion finish to Sherwin-Williams "Dimenso" a 2-tone baked enamel finish which was introduced about two years ago.

The new finish has been designed primarily for use by manufacturers who do not have facilities for baking. Sherwin-Williams' Industrial Finishes department points out that the product gives such plants all of the advantages provided to those using regular Dimenso with heat-drying. Cost of obtaining the 2-tone finish with "Lacquer Dimenso" is about a third less than where the 2-coat method of application is employed.

"Lacquer Dimenso" is ready to use as it comes from the package. It is applied by spraying and air dries hard in approximately 20 minutes. In general, primers are considered desirable but are not necessary if the surface is properly degreased and cleaned.

The finish is suitable for use on wood, metal or plastic surfaces of products that will not be subjected to high temperatures in service use.

"Lacquer Dimenso" is furnished in a popular aluminized and regular colors of regular Dimenso. It is packaged in drums and 5-gallon containers.

---

## Fire-Retardant, Non-Toxic Paint Resists 2000° F. Flame

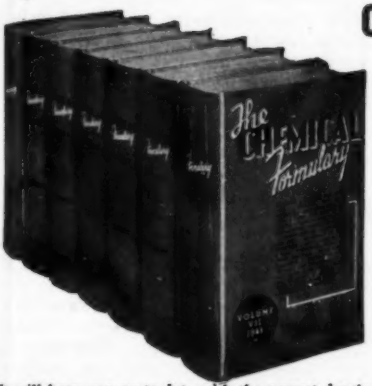
Designed to protect lives and property, a new highly efficient fire-retardant paint and coating which is also non-toxic is announced by the manufacturer, Stallton Chemical Corp., 8-14 37 Ave., Long Island City 1, N.Y.

Called "Flame-Seal," the new paint is the result of 12 years of continuous research. Described as easy to handle, it comes ready to use, requires no mixing of special ingredients, and can be applied directly from its original container by brush or spray-gun.

Company spokesmen report that tests show Flame-Seal generates no smoke or toxic gases when attacked by fire. Moreover, the new fire-resistant paint gives off no toxic fumes while being applied. When unpainted lumber is protected with a coating of Flame-Seal, the wood can withstand a 2000° F. blow-torch for 30 minutes without any flame spread.

When fire attacks wood which has been coated with Flame-Seal the paint undergoes a complete physical transformation. It immediately forms a

# The NEW 1948 CHEMICAL FORMULARY

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| Polishes | Specialties | Insecticides | Glass | Soaps |
| Lubricants | Removing Stains | Pharmaceuticals | Textiles | Cleaners |
| Drugs | Bleaches | Oils & Fats | Fibres | Waterproofing |
| Farm & Garden | Ceramics | Liquors | Beverages | Metals |
| Specialties | Deodorants | Dyeing & Coloring | Flavors | Alloys |
| Resins | Disinfectants | Fluxes | Rustproofing | Glues |
| Cements & Concrete | Laundry | Explosives | Metal Treatments | Pastes |
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# INDUSTRIAL FINISHING Magazine

**1142 North Meridian Street** **Indianapolis 4, Ind.**

"magic" white crust which creates a hard protective wall at least eight times the thickness of the original coating. Sustained exposure to the intense heat of a blow-torch flame on one spot for more than 30 minutes will result in some charring, but at no time will the Flame-Seal coating support combustion. The new fire-retardant paint is also said to be moisture-proof and termite proof, and it will not craze, chip, peel or crack.

## Air Conditioner for Compressed Air

The Black Mfg. Co., Baltimore, Md., announces a new light duty air conditioner that is well suited for use with portable compressors, or where air supply is limited. This conditioner, Black Arrow model N9500, has a capacity of 14-cu. ft. per minute at 60-lbs. pressure.

It is made of 100% rustless materials, and has no die cast parts or through bolts in its construction. There are no moving parts, or parts that need replacing. The cylinder tube is cold impact extruded aluminum capable of withstanding 1000-lbs. per square inch; the filtering element is wholly constructed of brass; and the regulator body and cap are of forged brass, with the cap containing all brass parts, plus a cadmium-plated steel spring.

The Black Arrow light duty air conditioner comes equipped with one light duty regulator with a 100-lb. gauge showing regulated air pressure, one regulated pressure outlet, and a draincock at the bottom of the tube for daily draining of moisture and oil.

## Chemical Resistant Coating

The Hanson-Van Winkle-Munning Co., Matawan, N. J., announces the development of Kote-Rax Grade K, a superior rack-coating designed to insulate and protect plating racks and fixtures in all types of electroplating and anodizing solutions. This formulation has excellent chemical resistance and is free from any tendency to introduce organic impurities into bright plating solutions.

The application procedure is rapid and simple. Only two dips are required to obtain a final coating. Kote-Rax, Grade K is 100% solids. This new rack coating belongs to a group of compounds usually called "plastisols".

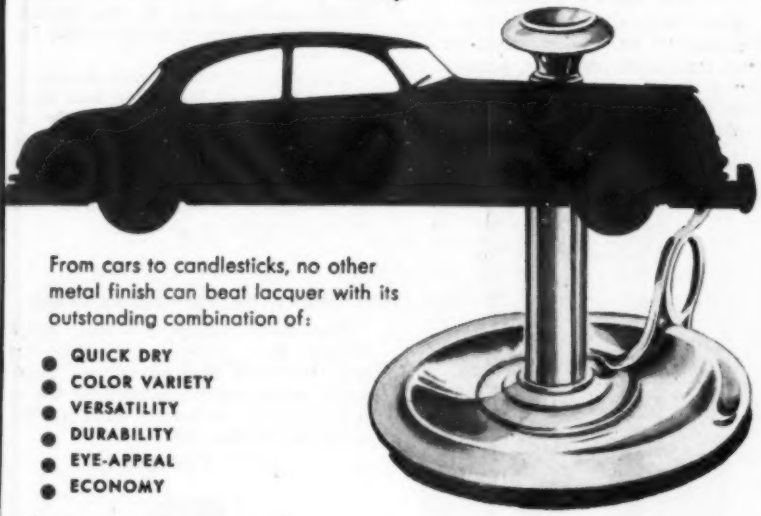
## Strippable Protective Coating

Chemclean Products Corp., 64 Sixth Ave., New York 13, N. Y., has developed a new strippable protective coating which has a variety of useful applications in plants manufacturing metal products.

This material, called Chem-Peel, is a plastic emulsion that can be applied either by spraying or dipping. It imparts to the surfaces so treated, a film of plastic which can easily be removed by simply peeling it off. It is useful for coating the surfaces of dry spray booths where it acts as a barrier coating between the booth walls and the accumulated overspray which can easily be removed by simply pulling off the coating in one continuous sheet.

Chem-Peel is also a useful tempo-

# LACQUER



From cars to candlesticks, no other metal finish can beat lacquer with its outstanding combination of:

- QUICK DRY
- COLOR VARIETY
- VERSATILITY
- DURABILITY
- EYE-APPEAL
- ECONOMY

*HERCULES POWDER COMPANY*
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# IS BEST!

*Hercules does not manufacture lacquers, only the basic materials from which they are made*

CL9-8

rary coating for protecting articles of high finish from being scratched, which normally occurs when these articles are put through stamping or forming operations.

Chem-Peel is relatively non-toxic and non-inflammable.

## Pressure Material Tanks for Spray Painting

Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Ill., reports that for the first time since the war, prompt delivery can be made on its complete line of standard pressure material tanks.

Typical Binks pressure material tank.

These standard tanks range in capacity from two to 60 gallons, have seamless drawn steel shells and are galvanized, inside and out. They are made to meet A.S.M.E. specifications and handle working pressures to 110-lbs. Steel bands welded to the concave bottoms provide solid support. Cadmium plated pressed steel lids are secured with C-type clamps. Tanks are available with manual or motor-driven agitators, top or bottom outlet.

## Floor Mat Provides Comfort and Safety

American Floor Products Co., 1526 M-Street N. W., Washington, D. C., offers a completely new product called Neo-Sponge Comfort Mat.

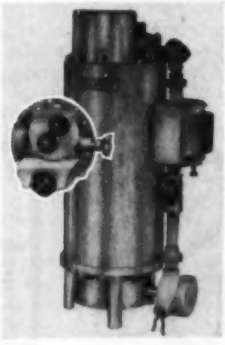
DuPont neoprene, blown into millions of tiny sealed-in nitrogen balloons, gives the mat a restful cushioning effect. The triangular raised "feet" on both sides of mat provide non-slip foot traction and make the mat reversible.

This comfort mat is non-absorbent. It provides good insulation both thermally and electrically, and it is resistant to deterioration by greases, fats, oils, heat or acids. It is available in thicknesses of ¼-in. and ⅜-in. Standard widths are 18-in. and 36-in.; lengths up to 9½-ft.

## Heater for Hot Spray Setup

The Beck Equipment Co., 10118 Detroit Ave., Cleveland 2, Ohio, has developed and now offers the "Dualheet" paint and air heater for use in spraying hot materials such as lacquer, synthetics, etc.

*(Continued on page 108)*



"Dualheet" paint and air heater.

# NEW IMPROVED FILLER

In keeping with our policy to "better the best"--we have developed a new, improved filler which we believe has great advantages over the old types.

This new filler will not turn gray in the pores. It is easy to wipe--does not settle like old type fillers--does not bleed and provides excellent adhesion.

It fills pores perfectly in either the overnight or four hour types.

We know you will find it to be eminently satisfactory for large scale--economical production.

**The Gilbert Spruance Company**

**RICHMOND AND TIOGA STREETS**

**PHILADELPHIA 34, PENNA.**

Simultaneously or independently, the Dualheet paint and air heater automatically heats both atomized air and paint to any desired temperature. Heating paint to exact temperature control reduces its viscosity and eliminates the addition of excessive amounts of thinner which otherwise would be required and which would evaporate.

The lacquer or other material to be heated for spraying passes through coils which, in turn, are surrounded by heated water. Dials are available for adjusting the heat to whatever temperature is desired. The equipment has an explosion-proof control switch and is approved by laboratory underwriters.

---

## Quaker Strip 15

The new types of urea melamine, vinyl, and bis-phenol finishes of both the air-dry and baked type can be stripped readily in less than five minutes' time, without the use of an expensive and hazardous solvent or special equipment.

"Quaker Strip 15", developed and sold by Quaker Chemical Products Corp. of Conshohocken, Penna., successfully performs this operation, according to a company news release. This product is applicable to both the new and old type finishes so that the necessity of maintaining a special stripping bath for either class of work is unnecessary.

---

## New Flexible Undercoater

Flash Undercoater No. 7 is the name of a new material presented by Strathmore Products, Inc., 1970 W. Fayette St., Syracuse, N. Y.

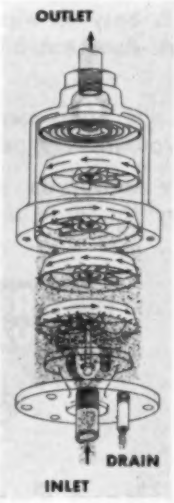
This undercoater dries rapidly and has good resistance to moisture. It dries to touch and may be scuff sanded in 30 minutes. The holdout properties are good, and it is compatible with lacquers.

Because of its moisture resistant properties it is adapted for use on steel cable reels, radiators, farm implements, fuel and storage tanks. It is suitable for use on either wood or metal, but is not recommended for plastics.

---

## Removes Oil, Water and Dirt From Compressed Air

Positive, efficient operation—easily installed in new or old lines—the Aridifier provides a satisfactory answer to practically every cleaning problem involving the flow of gas or air through a pipeline. Vaned rotors, revolving in opposite directions, under the impact of the moving air or gas, cause foreign particles to become impinged on the rotor blades. These particles are then thrown to the outside wall by centrifugal force and, in turn, fall into the drain.




The damage that moisture, dirt, oil and free scale in the compressed air lines can cause to air-powered and air-operated equipment is minimized with an Aridifier. Rejects in finishing and painting operations, caused by moisture entering spray equipment, are also reduced. There is no operating

# RANDOLPH

## AIR DRYING

# R. P. ENAMELS

## FOR METAL

*Distinctively New and Superior*

AVAILABLE IN ALL COLORS AND SPECIAL GRADES TO SUIT ANY INDIVIDUAL REQUIREMENTS

Many leading manufacturers depend upon Randolph for quality finishes at low cost and quick service. Our representatives are trained to give reliable and practical technical advice to help solve your finishing problems. This service is available without cost or obligation to you.

*We will welcome the opportunity to serve you.*

**CHECK THESE FEATURES**

- ✓ Phenomenal speed in drying
- ✓ Tough
- ✓ Glossy
- ✓ Remarkably low price

*Randolph*

PRODUCTS COMPANY

Carlstadt, New Jersey

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or maintaining expense with a Logan Aridifier; nothing to clog or require cleaning; no porous element to wash or replace. The rotors move on grease-packed ball bearings and, in operation, actually float. The Aridifier is a product of Logan Engineering Co., 4901 Lawrence Ave., Chicago 30, Ill.

## New Surface Preparation For Aluminum

A new method of preparing the surfaces of aluminum products for painting is announced by The Technical Processes Division of Colonial Alloys Co., Philadelphia 29, Pa.

This chemical treatment is adapted to small parts such as stampings, drawings, extrusions and screw machine products. Generally speaking, aluminum castings, especially those containing silicon are not suited for treatment by this method.

For those parts to which it is adapted, it is said to produce a good base for organic coatings, and to render the aluminum smudge-proof for handling and storage.

## Corrosion-Resistant Plastic Paint Coatings

A line of corrosion-resistant plastic coatings developed especially for the finishing industry for the protection of machinery, processing equipment and general factory maintenance where corrosives are used, has been developed by the Poly-Cyclo Products Co. of Cleveland, Ohio. The coating term CycLon, series "NPC" is a high-solids synthetic paint that is excellent for protecting metals, wood and ceramic surfaces against chemical attack by corrosive fumes, condensates, spillage, etc. CycLon air dries quickly by solvent evaporation to an adhesive, hard wearing, flexible glossy coating without the necessity of priming the surface being coated.

CycLon coatings are unaffected by all alkalies as well as by their salts and by most mineral acids. In addition, CycLon films are inert to alcohols, soaps, water, oxidants, food and fruit acids, oils, aliphatic hydrocarbons, gasoline (low octane) and many other corrosive reagents.

CycLon coatings will be sold nationally through Munray Products, Inc., 12400 Crossburn Ave., Cleveland 11, Ohio, sales division of the Poly-Cyclo Products Co.

## New Rubbing Lubricant for Furniture Finishing

S. C. Johnson & Son, Inc., Racine, Wisc., has developed a new wax rubbing lubricant which is claimed to eliminate the hazing, oil-spotting, and blooming usually encountered in the final finishing process. Rubbing and wax finishing can be accomplished

Can be rubbed by hand or with machine.

# YAK - YAK - YAK OR PROOF?

## WORDS OR FACTS-WHICH DO YOU PREFER?

**For the many finishing needs of industry—prove to yourself that UNITED LACQUER can meet your most rigid specifications and cost requirements.**

### IT'S THIS SIMPLE

1. **Analyze the particular finishing problems demanded by your specific product.**
2. **Write those problems to us on your letterhead or have one of UNITED LACQUER'S technicians discuss them with you.**
3. **We will send you a generous working sample of the best possible formula for your specific needs—absolutely free.**

*Send us your problems today.*

IT *Looks* BETTER
IT *Lasts* LONGER
*with*
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UNITED LACQUER MFG. CORP.

**UNITED *Lacquer* MFG. CORP.**

LINDEN, NEW JERSEY EVERETT, MASS.

lacquers
thinners
synthetics
metallized finishes
special coatings

at the same time, thus doing away with "oil wiping."

There's no oil in the lubricant developed in the Johnson Wax laboratory, so oil-spotting can't occur. The lubricant rubs on smoothly and easily and leaves a hard, dry film of wax. The finish doesn't even show finger prints and smearing.

No change in established rubbing procedure is necessary with the new lubricant except to eliminate the oil clean-up step. It's easy and fast to apply.

---

## Pressure Sensitive Labels

A new and different type of label is offered under the trade name, Mystik "Self-Stik" Labels. These labels may be applied to practically any surface by their pressure sensitive adhesive, without moistening. They can be used for product identification, or for instructions attached directly to the product. The labels are durable and long lived, yet may be easily and instantly removed.

Mystik labels are available in all sizes, printed in any number of colors and in any die-cut shape. The maker is Mystik Adhesive Products, 2635 N. Kildare Ave., Chicago 39, Ill.

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## Solvent Emulsion Cleaner

The Penetone Co., Tenafly, N. J., announces a solvent emulsion cleaner that works with amazing speed and eliminates the need for scraping. The cleaner, known as "Buxite", combines solvent and emulsifying action. The grease to be removed from a metal surface is penetrated and loosened by solvent; then it is flushed off easily with water because of the emulsifying action. "Buxite" has a high flash point and a mild odor.

## *New Men at Head of Leon Finch, Ltd.*

American-Marietta Co., Chicago, announces the appointment of David E. Eichelberger as president and Douglas E. Bryant as manager of its subsidiary, Leon Finch Ltd., Los Angeles, Calif.

David E. Eichelberger and Douglas E. Bryant

Mr. Eichelberger succeeds Mr. Leon Finch who recently retired from the presidency because of illness.

In addition to his new duties, Mr. Eichelberger, as vice president of American-Marietta Co., will continue to direct the operations of all American-Marietta Co. Pacific Coast Divisions, namely Schorn Paint Mfg. Co., of Seattle and the Adhesive, Resin and Chemical Divisions located in Seattle and Vancouver, B.C.

Mr. Bryant, the new Leon Finch manager, was New England technical representative for a well known company. Previously, he had been chief chemist for a Los Angeles paint and lacquer company.

---

## *Flexible Plastic Aprons and Sleeves Provide Protection*

New M.S.A. Chemgard translucent plastic aprons and sleeves for protection against chemicals, greases, dirt, and solvents in industrial plants and shops are described in Bulletin No. CZ-2, published by Mine Safety Appliances Co., Braddock, Thomas and Meade Streets, Pittsburgh 8, Pa.

Strong, Long-wearing, light in weight, M.S.A. Chemgard aprons and sleeves are non-porous, non-absorptive, will not crack or deteriorate at normal working temperatures. Seams are electronically welded and plastic neck and waist straps are permanently sealed to the garment at one end, fitted with adjustable snap fasteners at the other. These aprons and sleeves are stainproof, odorless, easy to keep clean.

# STILL POINTING THE WAY
## To Lower Production Costs

**Representative of the More Than 100 Furniture Plants Modernized with P-B Conveyors:**

Abernathy Furniture Co.
Bald Knob Furniture Co.
Bassett Industries
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Dixie Furniture Co.
Hoover Chair Co.
Lexington Chair Co.
Lincoln Industries
Lullaby Furniture Co.
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Consider H. Willett Co.

For 20 years Palmer-Bee has been pointing the way to lower production costs in the furniture industry.

Worth-while savings and improvements have been effected . . . floor space saved . . . production increased . . . costs lowered . . . quality raised . . . better plant housekeeping secured.

An outstanding furniture conveyor specialist, Mr. H. W. Ruth, heads our Winston-Salem, N. C., Office . . . devoted entirely to this class of work.

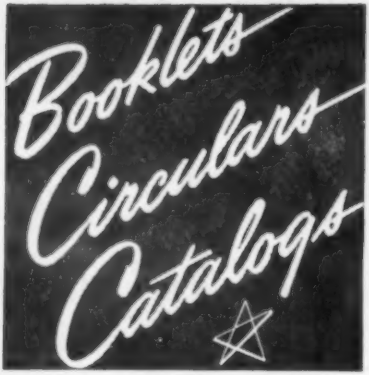
Upon request, a P-B Engineer will visit your plant and submit plans and proposal to cover its complete or partial mechanization.

ENGINEERS • MACHINISTS • STEEL FABRICATORS • ERECTORS

PALMER-BEE CO. CONVEYORS DETROIT STEEL FABRICATORS ENGINEERS

# PALMER-BEE Company

DETROIT 12, MICHIGAN




## Flexible Shafting Catalog

A new 16-page catalog which gives extensive information and shows many illustrations of flexible shafting and its possible uses, has been brought out by Elliott Mfg. Co. (Flexible shafting for power drives and remote controls) 350 State St., Binghamton, N. Y. Anyone interested in this type of power drive should send for a copy.

## Conditioning Aluminum for Painting

The American Chemical Paint Co., Ambler, Penna., has prepared an illustrated brochure on aluminum and the problems of corrosion-resistance and paint-bonding. This brochure will be sent, without charge, to any one requesting it.

## New Book on Modern Finishing "Paint & Varnish Technology"

Here is a new practical high-class book that every progressive user of finishing materials should have available for frequent reading and reference. Its 27 chapters were written by 33 men, each of whom is a recognized authority on the particular subject assigned to him. All of these men are connected with well-known concerns who manufacture or supply important products for the industry. In the preparation of their respective portions of the book these authors drew not only from their own and their companies' knowledge and experience, but referred to numerous previously published authoritative books and magazine articles, the names of which are acknowledged at the end of each chapter.

Subjects covered include practically everything in connection with modern finishing materials—drying oils, pigments, resins, thinners, solvents; the formulation and manufacture of varnishes, lacquers, enamels, synthetics and paints; surface preparation before painting, methods of applying and testing surface coatings, etc. Many illustrations are included.

Contents of the book are listed in chapter headings in the front and in an alphabetical cross-index which covers 18 pages in the back of the book. The book contains more than 500 pages, 6x9-in., and is substantially and attractively bound in light orange-brown and lettered in gold. Paper stock and printing are of the highest quality. Price of the book is only $8.00. Copies can be ordered through Industrial Finishing Magazine.

## Spray Booth Design Reduces Maintenance Costs

How the design of Acme Water Wash Spray Booths keeps maintenance costs to a minimum is the subject of two new bulletins just released by George Koch Sons, Evansville 4, Ind.

These bulletins illustrate and describe in detail four merits of Acme spray booths that make lower maintenance costs possible. Other merits are described, too.

The bulletins also tell how the Acme Water Wash design is applied to down-draft booths and to porcelain enameling. Specifications for five standard sizes (from 6-ft. to 15-ft. wide) of cross-draft booths are given in chart form. Special sizes are made to fit individual requirements. Write for Bulletins No. 300B and No. 301B.

## Bulletin Illustrates and Describes DeVilbiss Air Compressors

A 4-page bulletin printed in two colors shows illustrations of all parts and the complete DeVilbiss 4-cylinder, V-type, 2-stage, air-cooled compressors in 7½, 10 and 15-hp. sizes.

Each part is named and briefly described. Other technical data is also included. A copy of this new bulletin can be obtained by writing The DeVilbiss Co., Toledo 1, Ohio.

## Corrosion-Resistant Finish Described in New Brochure

A corrosion-resistant metal finish that "dips without drips or sags," and which can be baked at 300° F., is described in a brochure offered free by Interchemical Corp., Finishes Division, 57 State St., Newark 1, N. J. The finish is called "Roxaprene." It has a chlorinated rubber base and is heat-stabilized.

*For fine decorative finishes use —*

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**THE MEARL CORPORATION**

153 WAVERLY PLACE NEW YORK, N. Y.

*"World's Largest Producer of Pearl Essence"*

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**To stripe with a Beugler**

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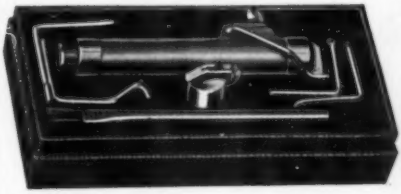

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and fourteen standard size stripes from which to choose. Also many special stripes, Concave, Convex and Double stripes.

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2 size stripes
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## One Cause of Poor Filling

**By F. G. Masters**

IN WOOD finishing a wash coat of sealer or shellac is designed to hold colors light and transparent, and to aid clean wiping of the filler. But improperly wash coated work can cause poor filling. I remember one case of poor filling which was caused by applying a wash coat of too-high solids content.

In this particular case regular lacquer sealer was applied as a wash coat at 15% solids. The sealer glazed the inside surfaces of the pores in the wood to such an extent that the filler would not break off clean, and would wipe right out of the pores.

The wash coat should be in the range of 5% to 10% solids. Four-pound-cut shellac reduced with four or five times its volume of alcohol is about right. Sealer at 15% solids should be reduced with about twice its volume of lacquer thinner. The wash coat should be sprayed on lightly to avoid glazing the pores.

New Interchemical wet film thickness gage. This gage quickly and accurately measures film thickness when operator rolls gage over wet film and reads calibrated scale.

## Selection and Purchase of Thinners

**By Rollin H. Wampler**

CONSUMERS of organic finishing materials often must decide whether to buy their materials ready to apply, or at a heavy consistency that requires reducing in the plant. It is obviously unwise to buy primers and most enamels ready to use because of the danger of hard settling of the pigments. Likewise, in some cases, the consumer can buy the reducer as economically as the supplier, as in the case of paste wood fillers. But with the exception of such special cases there are many materials that can be obtained either ready to apply, or at a heavy consistency. With the exception of a few cases, technological or economic reasons often have little or no bearing on the choice.

Most consumers of large volumes of a few materials find it to their advantage to buy materials ready-to-use. The supplier then becomes responsible for the consistency of the material, there is less chance of mistakes such as the wrong quality or kind of thinner being used, and the labor cost of reducing is eliminated. Further, the inventory of materials can often be substantially reduced, and the problem of keeping it in proper balance is simplified. Most suppliers prefer to ship at application consistency because then they can be sure their materials will not give trouble due to inaccurate or improper reduction.

There are instances in large-scale operations, however, when considerations of flexibility and adaptability make it desirable to buy materials concentrated or at heavy consistency and then adjust or reduce same with a thinner. For example, where a furniture manufacturer uses large quantities of non-grain-raising stains in

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*A Sensational NEW Quick-drying Finish for Wood and Metal . . .*

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CLOR-O-LAC offers merits heretofore unknown! Spray application air dries in *3 or 4 minutes* to a high gloss! Ideal also for roller coat or dip application. CLOR-O-LAC is highly resistant to alkalis, gasoline, grease and extreme weather.

Give your wood and metal products this beautiful, glossy finish that is tougher and far longer-lasting than ordinary applications. Available in clear or any color. For further details write:

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several colors, he may find it to his advantage to purchase three or four basic concentrated liquid colors, and then blend and reduce them as required for any color he needs. On the other hand, where he uses large quantities of two or three colors, he may find it to his advantage to purchase his materials ready to use.

Frequently the question comes up as to whether it is wise to buy the base material from one manufacturer and the reducer from another, especially lacquer thinners. Some finishers believe that both should be made and supplied by the same manufacturer. However, from a technological standpoint there is no good reason why this need be so.

When contemplating buying lacquer thinner from a different source than the lacquer, it is a good policy to give the thinner manufacturer a sample of the materials his thinner is expected to reduce. In that way his chemists can determine whether or not his thinner is satisfactory, and he can take on full responsibility for its performance,

There is no one hard and fast rule that will definitely apply in all cases. Careful consideration of all factors and good judgment are the only sure guides to formulating a sound policy in reference to the selection and purchase of thinners.

---

## Fire-Resistant Paint Patents Available to Industry

The Watson-Standard Co., well-known manufacturer of vinyl finishes, announces an additional service in its line of organosol and plastisol coatings and is now in position to supply vinyl dispersions of all types embodying flame and fire resistant principles of the Hooper Patents to the industry.

The use of antimony oxide and chlorinated paraffin or chlorinated carriers is a well-known combination which was used extensively during the war. This announcement comes at a time when the interest in fire protection is great and a proven method is advantageous.

The Watson-Standard Co. is also in a position to grant sublicenses to industry for the benefit of those who process their own coatings in their own plants. Technical information and general help is available.

Inquiries in regard to the sublicensing arrangement should be addressed to Mr. E. H. Kipp, 1415 Park Building, Pittsburgh 22, Pennsylvania, or to The Watson-Standard Company, Post Office Box 1825, Pittsburgh 30, Pennsylvania.

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## "Appearance and Its Measurement" Courses Announced

Henry A. Gardner Laboratory, Inc., 4723 Elm St., Bethesda 14, Md., announces laboratory and lecture courses on "Appearance and its Measurement", to be given by the laboratory. The first 2-day course was conducted on Feb. 3 and 4, and the first 5-day course was held during the week of Feb. 7 through 11. The Laboratory has made arrangements for similar courses to be given during the latter part of March or early April. Further information can be obtained by writing the Laboratory direct.

---

## H. D. Coulton, Sales Manager of Glidden's Eastern D. S. Div'n.

Henry D. Coulton has been appointed sales manager of the Glidden Co.'s Eastern Direct Sales Division, Reading, Penna.

Henry D. Coulton, Sales Manager of Glidden Co.'s Eastern Direct Sales Division

Mr. Coulton, son of a prominent Cleveland banker and industrialist, joined the Glidden Co. soon after his graduation from Princeton University in 1934. Before joining the Navy in 1941, he served as assistant manager of retail stores and as assistant to the manager of industrial and transportation sales.

In his new capacity Mr. Coulton will be responsible for Glidden industrial sales in the important Eastern Division.

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★ Whether hand cut or photographic silk screen plates are best suited to your type of work, you'll find NAZ-DAR a reliable and economical source of supply.

SILK SCREEN is the MODERN method of applying decorative designs, lettering and trade marks, because it provides absolute UNIFORMITY, SHARP DETAIL, SPEED and LOW COST. You can apply on any surface.

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All production men should investigate the application of Silk Screen Stencils to their production problems.

★ *Write Department IF 3 for information or copy of catalog No. 25.*

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| "FINISHING METAL PRODUCTS"—2nd ed. (352 pages) | 4.00 |
| "PRACTICAL FURNITURE FINISHING" (112 pages) | 1.25 |
| "FURNITURE FINISHING" (543 pages) | 4.00 |
| "SPRAY PAINTING"—Industrial and Commercial (169 pages) | 2.00 |
| "THE MIXING OF COLORS AND PAINTS" (292 Pages) | 2.50 |
| "WOOD FINISHING" (361 pages) | 2.50 |
| "NATIONAL PAINT DICTIONARY" (704 pages) | 7.50 |
| "SILK SCREEN METHODS OF REPRODUCTION" (233 pages) | 3.00 |
| "MODERN POLISHES AND SPECIALTIES" (313 Pages) | 7.50 |
| "PRACTICAL COLOR SIMPLIFIED" (128 Pages) | 5.00 |
| "GRAINING"—Ancient and Modern (224 Pages) | 4.00 |

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**1142 NORTH MERIDIAN STREET INDIANAPOLIS 4, INDIANA**

# Industrial FINISHING Editorial

## Not A New Look But A New Outlook

We may as well face the issues as they exist. But it should be done calmly and thoughtfully. This is a time which could be adequately described as a reason of adjustment in business. Management, production and sales in some cases may not be in proper balance. To function successfully all three must be brought back into correct relation.

For the last eight years management has been busy trying to get enough employees to work around the clock, to get priorities and releases on equipment and raw materials, and then find the equipment and materials to increase production.

For the last eight years production has been busy trying to keep up the terrific pace set by management, to keep overloaded equipment in repair, to train unskilled employees in the shortest possible time, and to maintain as high a standard of quality as available men and materials would permit.

For the last eight years the sales department has, in many cases, been inactive. Some salesmen were transferred to other departments; others served as contact men on government contracts; still others worked as trouble shooters. Certainly none of them were busy trying to sell any products.

Now the picture has changed. Management is no longer busy trying to do the things that formerly produced so many headaches. Production is no longer under such terrific pressure; it has settled down to normal running. Both management and production are looking to a sales force that has been hibernating for eight years to suddenly find ways and means to profitably dispose of all that the factory can produce. Maybe that is where it is out of balance. Perhaps the sales department needs a few new tools to work with, training or refresher courses, new ideas, new uses for old products, a new outlook, and greater than any of these, a new enthusiasm and inspiration.

## Coated Fabric Gloves Developed

Development of a new coated fabric work glove that outdoes rubber and all standard synthetic coated gloves, both in resistance to chemicals and resistance to abrasion, is announced by the Surety Rubber Co., Carrollton, Ohio. The new gloves will sell for the same price as standard oil-resisting synthetic coated gloves.

# *is your problem* **SIMPLE** *or* TOUGH *?*

● Providing your product with an attractive and durable finish may be just a routine production step—or it may be a rather involved process. But whether it's very simple or extremely complicated, you can assure yourself of the best results when Watson-Standard supplies the finishing system you need.

● From a simple one-coat finish to a complicated multiple-coating system, Watson-Standard devises the exact process required to give your product a decorative and functional coating. A few of the systems already developed by our laboratories include those for bicycles, signs, refrigerators, crowns and closures, high heat and vinyl processing, canisters, meat pack processing and sizes. *Write us today about your coating problem.*

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**Prescription Finishes**
*Give us your coating problem. We guarantee you an answer based on your conditions, and not just a standardized formula.*

**THE WATSON-STANDARD CO.**
Manufacturers of
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TACK RAG
Collects Dust and Dirt Too!

DUST settles on surfaces and unsatisfactory finishes result. The *Dust-All* Tack Rag collects Dust. It is the quick economical means to assure good finishes.

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HARDING
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10606 Gratiot Ave., Detroit 13, Mich.

## *Sell the Finish of New Products*

★ I have often wondered why the finish on an object has not been used more frequently as a means of selling that product.

While it is true that when contemplating the purchase of refrigerator or an automobile, one is more concerned with the luxuries and the mechanisms involved than with the finish, there are many items in which the finish is indeed a functional part. In kitchen cabinets, desks, furniture of all sorts, salad bowls, etc., *the durability of the finish is a very important part of the usefulness of the article over a period of time.*

It has often been a source of wonder to me that some enterprising company hásn't exploited a well-finished product to his benefit. Just visualize a display in a department store window. Two table panels are being alternately subjected to ice water and to a blast of heated air. Panel "A" (from a competitive table, no doubt!) shows severe cold-cracking, while table panel "B" (which our store is trying to sell) is taking the punishment and showing no signs of failure.

Or visualize another exhibit showing the difference in abrasion resistance and durability between a kitchen cabinet "A" finished with inferior paint, versus kitchen cabinet "B" (which again our store is trying to sell) finished with superior paint showing that under conditions of use, cabinet "B" will have a good appearance during many years of useful-

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials, paying for those published.*

ness, while the paint on cabinet "A" has begun to wear and peel.

Many consumers have been severely disappointed by finding that the furniture, for which they saved so long and spent so much, showed cold-cracking after a short period of service in the home. And many other consumers have been disillusioned by finding that their new gleaming white kitchen remained so for only a short time because the paint peeled and wore off their beautiful kitchen cabinet. Many a piece of furniture has been disfigured because the finish was not sufficiently resistant to alcohol. Consumers, although inarticulate, are aware of these facts, and would be receptive to selling techniques that explain the finish and extoll its beauty and durability, not only at the time of purchase, but for many years afterward.—M. A. GLASER.

## *Why Cheap Enamels May be Expensive*

★ For the first time in nearly a decade, supply is catching up with demand. People who used to say "Where can I get it"?, now say "How much does it cost?". As a result, competition is again a great factor in successfully running a business.

Lowering costs of making consumer goods is essential to continued sales. Among the ways of doing this are: Improving the design, buying cheaper materials, cutting wages. Of these, wages are pretty well stabilized. Metals are not plentiful and no bargains can be obtained; so many manufacturers are demanding lower prices per gallon on finishing materials.

Suppose we use as an example a white synthetic baking enamel. There is generally but one way to reduce the price and still maintain the quality and baking speed. That way is to reduce solids in the enamel. This means


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**Play safe — use**

# ☆ SAF-TE ☆

***Non-Burning Remover***

**There's no danger of fire when you strip finishes with SAF-TE. For SAF-TE simply will not burn! Does a top-flight removing job . . . reduces any finish to a soft sludge that comes off easily. *Requires no after-wash*— saves time and work. Leaves the surface ready for refinishing.**

**For over 30 years we have helped solve removing problems for many of America's leading manufacturers. Perhaps we can aid you, too!**

**FILL IN COUPON.**

***Approved by U. S. Dept. of Commerce as "ship stores"***

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We are interested in stripping the finish from.....

Type of Finish.....

Name.....

Company.....

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City.....State.....

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wet film thickness with the Interchemical Direct Reading Thickness Gage.

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Write for Leaflets describing this and other new physical testing instruments.

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TACK OFF THOSE SPECKS

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Industrial Size 18 x 36
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7027 N. Ravenswood Ave., Chicago 26, U. S. A.

that instead of the normal 55% to 60% by weight of film-forming material in a gallon of paint, there will be but 45% or even 40%. Since it is the solid material in enamel that does the job of decorating and protecting fabricated articles, it is obviously false economy to pay $2.75 to $3.00 for a gallon of white enamel which will coat 300 pieces, when for 75 cents more per gallon, 400 pieces might be coated.

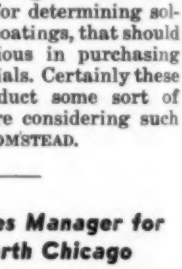
In increasing numbers, consumers of surface coatings are becoming aware of these facts. They are installing laboratories to check the quality and solids of paint products, and they insist that their standards be maintained.

It is generally the smaller plants, and those of the larger ones which have no facilities for determining solids and quality of coatings, that should be especially cautious in purchasing lower priced materials. Certainly these people should conduct some sort of mileage tests before considering such a move.—E. J. BROMSTEAD.

---

### *R. T. Riggs Sales Manager for Zapon at North Chicago*

Mr. R. T. Riggs has been appointed Sales Manager for the North Chicago, Ill., plant of the Zapon Industrial Finishes of Atlas Powder Co. Formerly Mr. Riggs was identified with the sales departments of two other large manufacturers of industrial finishing materials.



H. T. Riggs is now Sales Manager for Zapon at North Chicago, Ill.

## *Production Methods to Meet Competition*

★ With the return of a buyers' market, manufacturers are faced with the problem of producing products that are high in quality and reasonable in price in order to successfully cope with an increasingly competitive market. Merchandisers in all lines are showing more caution in selecting goods to offer to the public. In such a market, only those manufacturers who keep abreast of the latest methods and who continually seek to improve their products can be successful.

Since the war, notable improvements and great strides have been made in all phases of manufacture. These strides are particularly noteworthy in the field of product finishing, where the application of new methods and materals have contributed to the general improvements shown in postwar product finishes. However, all manufacturers are still faced with specific problems peculiar to their own products.

Each separate step in the finishing process must be studied and worked out to fit into the overall requirements for each manufacturer. Where a particular formula of finishing will work for one type of product, it may prove to be wasteful and slow for another. Only by constant experiment and study can the producer hope to keep his product in line with the ever changing and new ideas brought into product finishing.—WILLIAM B. LEIL.

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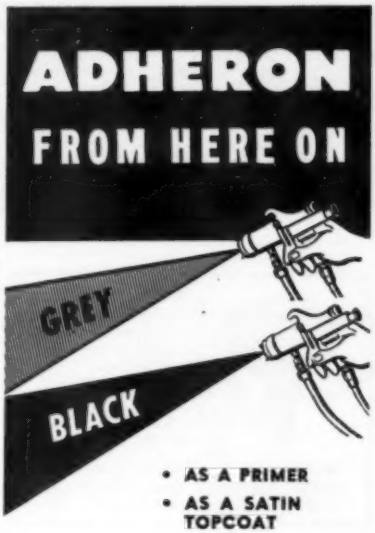
## *Pressure Material Tanks Available*

Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Ill., advises that all sizes of pressure material tanks from the 2-gallon to the 60-gallon sizes, as described on pages 49 to 64 of Binks catalog, are available for immediate shipment. This includes tanks for paint, lacquer, enamel, etc., with or without agitators.


ADHERON has an affinity for surfaces that defy other lacquers.

Aluminum, copper, brass, steel—Duralac's ADHERON goes on and stays on. Yes, tin too takes to ADHERON.

ADHERON air dries. Dust free in 10 minutes; 2 hours to handle. Reaches full hardness overnight. Can be baked.

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The Miskella Standardized Insulated line now includes: Vibra-Veyor, Duplex-Veyor, Burn-in-Kit, Bench-Kit, Test-Kit, Barrel-Kit, "Tub" Oven, Pull-Thru Oven, Elliptical Oven, Rack-Tub, Hy-Heat Units, Super-Heat Units, Low-Heat Units, Porta-Veyor, Chain-Veyor, Belt-Veyor, Coil-Veyor, Heat-O-Lier and Attic Oven.

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Time tested—job tried. Nalco Infra-red lamps have proven highly efficient and long-lasting for all types of drying, baking or heating installations . . self reflecting or clear glass type.

**Send for "Drying Problems Made Easy"**

**North American Elec. Lamp Co.**
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Built for durable service. Longer-life cartridge. All parts replaceable.

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**PEARL ESSENCE**

"Astralucine Brand"
Produces a high luster on a variety of finishes

Write for your free copy of our informative Technical Bulletin "Pearl Essence Finishes" —what they are and how to use them.

**Argenta Products Co.**
EASTPORT, MAINE

## *Let's Practice Economy Intelligently, Thoroughly*

Economy is always a virtue. For the past several years economy was often justifiably sacrificed for speed and volume of production. But now that most scarcities no longer exist and all business is on a more normal plane, it is highly important that industry place economy back in top position.

To be effective, economy must be practiced throughout the plant in time, motion, energy and materials. Unless a thorough job is done, there is little use in even starting a campaign. Employees are very observant people. They quickly detect thoughtless, unplanned methods of conservation in one place and gross waste in another. Also, employees must be trained in the ways of economy.

There is little use in plastering the bulletin boards with posters and slogans, hold meetings and rallies to preach economy on one hand and then allow several hundred feet of no-longer-used conveyor chain to continue to operate; to allow leaky valves and faucets to run or drip; to waste electric power or permit lights to burn all day regardless of the need for light; to waste time and energy handling raw materials and work in process manually when power driven equipment is available to do the job more quickly, more easily and more

economically; to waste materials and supplies of all kinds from wiping rags to sludge from the water wash spray booths.

Yes, the average worker is intelligent and observant. If he is properly informed of the need for economy, properly instructed in the ways of economy, and properly impressed with the sincerity of management in effecting economy, the average worker will cooperate. *Perhaps all of us need to trim our sails a little, and get back to being a little Scotch in an intelligent sort of way.*

## Safety Precautions With Solvents

★ Both the manufacturers and users of paints and allied coatings must store and work with volatile solvents. Improper handling of such materials introduces both a fire and explosion hazard, whereas common sense precautions as well as making a study of the problem involved would minimize the danger of a catastrophe. Such a study will involve such phases as the inflammability hazard, the physiological effects of the solvent and vapor, and the loss of solvent through evaporation.

Practically all paint solvents are inflammable; they will burn and, under certain conditions, some of them will ignite with explosive force.

The inflammability hazard of a solvent can be predicted with fair accuracy from its flash point, which is the temperature at which the solvent gives off vapor at such a rate that a mixture of air and vapor above the solvent can be ignited by an open flame. Knowing the flash point temperature of the solvent you are using will help to guide anyone who uses solvents.

The presence of solvent odors in a plant does not necessarily indicate the


NEW
SILICONE-BASE
HEAT RESISTANT FINISH

*MICO Aluminum hailed by leading manufacturers as the most heat-stable finish ever to be developed for every day commercial use.*

NOW—a heat resistant finish that protects—*virtually doubles the life*—of vital parts in hundreds of products like mufflers, engines, boilers, ovens, oil and gas burners. MICO Aluminum has passed 23 different tests for thermal, chemical, and physical stability, and has thoroughly proved itself on the production line. *Investigate* MICO. *Get the facts!* Write today for your copy of the new MICO folder . . .

MICO . . . THE SILICONE BASE FINISH THAT WITHSTANDS 1000° (F.)—WITHOUT SURFACE BREAKDOWN.

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ENAMELS • SYNTHETICS • LACQUERS • VARNISHES

RESTORE PAINT IN 2 MINUTES

PER GALLON WITH
MIRACLE BLUE-BOY
5 GALLON
PAINT REJUVENATOR

Paints, lacquers and enamel products can be restored to their original consistency without opening the can. Units available to handle from ½ pint to 50 gallon drums. Immediate delivery.

Originators of paint rejuvenating equipment---sixteen years---thousands of satisfied users.

*Write for folder & prices*

MIRACLE PAINT REJUVENATOR CO.
127 E. 9th Street St. Paul 1, Minn.

**Public Demand Persists for MODERN**

**WOOD BLEACH**

*Secure Your Results*

Make PERFECT
BLANCHIT-BLEACHED
Finishes

*Use*

**BLANCHIT**

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THE ORIGINAL

A patented wood bleach which has been improved.

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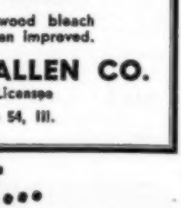
*IMAGINE...*

**PUMPING PUTTY!**



● Sounds screwy . . . but scores of sash mills are glazing windows with the new Graco Powerflo Pump. Caulking compounds, insulating and sound deadening materials are being applied faster, cleaner, cheaper with this great new unit.

Powerflo pumps direct from original 5-gallon pails . . . ends messy handling. Air-operated pump supplies steady, uniform flow to spray or gun head . . . makes application faster, neater, less wasteful. Get the details . . . write to

Industrial Department
GRAY COMPANY, INC.
Graco Square, Minneapolis 13, Minn.

**GRACO** POWERFLO PUMP

presence of explosive mixtures, although naturally, from a physiological and job efficiency point of view, all precautions should be taken to have adequate ventilation.

Explosion meters are now available which can be carried throughout a plant to check the possibility of pockets of explosive mixtures being present. Such an instrument will materially aid in improving equipment and plant practices for the sake of safety. —L. E. MARTIN.

---

## *Listen for Complaints; Improve Quality*

If one puts his ear to a railroad track, a moving train may be heard many miles away. That is known as track listening.

The retailer is sometimes quite far removed from the manufacturer via distributor, jobber and wholesaler. From time to time one hears or reads of some retailer's criticism of the quality of the merchandise he is expected to sell in direct ratio to the price at which it must be sold, so that the retailer may continue to operate. These criticisms do not originate in any one section of the country, and as yet they are not too numerous to produce immediate alarm. Yet they are voiced, and cannot be overlooked.

With all of the modern equipment available, the knowledge of efficient methods and the multitude of new and improved materials, there is little excuse for poor quality. It is just possible that some manufacturers are not taking advantage of the new equipment, better and shorter methods and improved materials. There are better ways for producing products if manufacturers will find the way.

Perhaps it would be well for all manufacturers to do a little track listening by a close analysis of their equipment, methods and materials, re-

arrange plant layouts for more expedient operation, install modern, fast equipment both for material handling and work in process, and make a complete study of materials now used, with the idea in mind of substituting better, more improved materials.

## Pin-Holing from Filler

**By Rollin H. Wampler**

A FEW minutes before writing this I received a call from a manufacturer of radio cabinets who was having some finishing difficulties one of which involved pin-holing from the filler. Since he had already investigated the matter quite thoroughly, he was looking for additional ideas in his effort to track down the trouble.

During our conversation several ideas developed which may be of general interest. Since nothing of a confidential or competitive nature is involved, the ideas are given here for whatever value they may have to others who may be having the same difficulty. Of course, there is no assurance in any specific case that any of these ideas may be a useful clue, but they are offered merely as ideas which experience has indicated are sometimes helpful.

1) *Glue sizing.* Many finishers glue size porous woods to give better smoothness, to minimize absorption, and to give a cleaner, more uniform color. Too much glue size, however, may so glaze the wood that the filler will not stick in the pores when it is wiped. Further, the glue size may seal the wood too much, so that if the filler is force dried the expanding air in the wood comes out only through the larger pores, pushing out the filler, intsead of diffusing out through many openings.

2) *Wash coating.* Too much wash coat may have the same effect as too

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much glue size. The wash coat should be at around 5% to 8% solids, and should be put on lightly.

3) *Spraying filler.* Many finishers find that when spraying filler it is advisable to go over the freshly sprayed surface with a brush, or even to pad the filler in wet with a rubbing machine, in order to get away from the possibility of the filler bridging the pores instead of flowing into them. Further, the reducing solvent may have to be slower when the filler is sprayed, for the filler should remain wet and in a flowing condition for a couple of minutes after it is put on.

4) *Wiping filler.* The filler crew should be closely watched to see that they do not wipe the filler too wet; otherwise it may pull out of the pores. The filler is or should be crumbly, not smeary, when it is time to wipe. Of course, it should always be wiped carefully across the grain.

5) *Force-drying filler.* Hot spots in the oven may cause blisters which will push the filler out, particularly if the reducing solvent is fairly slow. A relatively low, uniform temperature will do a better job than a fast, hot flash-drying.

6) *Others.* Moisture in the wood sometimes causes pin-holding of filler or topcoats. The air trapped in porous woods may expand too rapidly when the wood gets in the oven, particularly if the temperature at the entrance is high.

As this manufacturer had done, it is always best to call in the suppliers first. Perhaps a little change in the material will stop the trouble; not that the material is necessarily faulty or of poor quality; it may not be quite adapted to the conditions in the customer's plant.

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## N. J. Leary Appointed by Circo Products Co.

Circo Products Co. (vapor degreasing equipment) Cleveland, Ohio, announces the appointment of Mr. Norman J. Leary, as Manager of Industrial Sales and Service. Mr. Leary, who has had many years of experience in the field of vapor degreasing, is well qualified to carry out his new responsibilities.

## Solvent Vapors

THE "ONE-TIME" user of solvents is among the more frequent victims of solvent accidents, case reports indicate. Apparently the cause is unfamiliarity with the possible hazards, particularly vapor poisoning, and the precautions necessary to avoid trouble.

To eliminate all possibility of solvent illness, workmen should be prevented from inhaling solvent vapors, even during the single job requiring not more than an hour or two. If the work cannot be moved outdoors or to an area where the vapors will be removed by suitable mechanical ventilation, gas masks or supplied-air respirators approved by the U. S. Bureau of Mines should be worn by the men. The solvent should be used from closed containers and solvent-saturated rags should be dried outdoors or where vapors can do no harm.

If any of the workers develops symptoms such as dizziness, stomach upset, nausea, or a feeling of weakness, he should be removed from the job immediately and sent to a physician with information about the kind of solvent he was using. Some individuals, particularly those who are addicted to alcohol, are especially susceptible to solvent illness.—*Safety Research Institute.*

## Deep Color with Wiping Stains

*By H. L. Morenci*

SOME YEARS AGO a customer complained that he was having trouble getting a deep color with his pigment wiping stain. He was applying the stain directly onto the raw wood. The wood was poplar, and he was manufacturing novelty tables.

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Investigation disclosed that he was sanding the wood smooth prior to staining; in fact, a little too smooth, because the stain did not seem to penetrate enough to give a deep color. Changing to a coarses abrasive belt for the final sanding gave a deeper color, but dark sandpaper streaks showed up.

The foreman finisher finally had a happy idea which worked. After the wood was well polished with fine sandpaper, he sprayed the surfaces very lightly with a weak water stain. Just enough was sprayed on to raise the grain very slightly, but not enough to require sanding. The pigment wiping stain then adhered and penetrated deeply enough, and the color in the water stain gave a nice, uniform background.

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### *Henry O. Farr Advanced by Pittsburgh Plate Glass*

Appointment of Dr. Henry O. Farr as production and technical director of the Murphy Paint Co., Ltd., a Canadian affiliate of Pittsburgh Plate Glass Co., has been announced.

Associated with Pittsburgh Plate Glass Co.'s paint division since 1936, Dr. Farr for several years served in the research department at Mellon Institute of Industrial Research at Pittsburgh. Prior to the war, he was transferred to the paint division's technical department at Milwaukee. During the war years, Dr. Farr served as chief of coatings section with the War Production Board at Washington D. C.

In his new position with the Murphy Paint Co., Ltd., Dr. Farr will make his headquarters in the executive offices of the company, Dominion Square Bldg., Montreal, and will have full responsibility for the manufacturing and technical operations of the Company's four manufacturing plants in Montreal, Toronto, Windsor and Vancouver.

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Superintendent or assistant in case goods or upholstered furniture. Experienced from car to shipping, including schooling in kiln drying. 33 years old, married with family. Aggressive and excellent references from last employer. Address IF-618, care Industrial Finishing.